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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. I.—7TH YEAR.

SYDNEY: SATURDAY, FEBRUARY 28, 1920.

No. 9.

IRITIS.¹

By F. Antill Pockley, M.D.,

President of the Ophthalmic Section of the Congress on Diseases of the Eye, Ear, Nose and Throat, 1918, Sydney.

Almost all diseases affecting the interior of the eye are caused by, or associated with, systemic disorders. The few exceptions to this general statement are primary neoplasms, certain changes due to myopia, some cases of cataract, traumatism and possibly a few others.

To this rule the iris conforms, but of recent years the iris, almost alone of the structures of the eye, is alleged in a very large proportion of cases to be the peculiar prey of localized or focal infections from other parts of the body.

For over 30 years in my lectures to students at the Sydney Medical School I have used the following classification: simple or rheumatic, syphilitic, gonorrhœal, sympathetic, traumatic, tubercular, other rare forms.

A tabulated report on 500 cases of iritis occurring in the Wills Eye Hospital, published in 1909, gives the causes as follows:—

Wills Eye Hospital: 500 Cases of Iritis; 1909.		
Cause.	No. of Cases.	Per-cent.
Syphilis	307	61.4
Rheumatism	127	25.4
Gonorrhœa	26	5.2
Influenza	7	1.4
Exposure	7	1.4
Tuberculosis	6	1.2
Malaria	6	1.2
Child-birth	3	0.6
Typhoid Fever	2	0.4
Intra-Uterine Inflammation	2	0.4
Diabetes	1	0.2
Gout	1	0.2
Pneumonia	1	0.2
Cerebro-Spinal Meningitis	1	0.2
Measles	1	0.2
Lead Poisoning	1	0.2
Rhus Toxicodendron Poisoning	1	0.2
	500	100

In 100 cases of non-traumatic iritis, investigated in 1916 by Irons and Brown, the causes are given as follows:—

The Causes of Iritis in 100 Cases (Irons and Brown), 1916.

Infections.	Alone.	With Other Infections.	Total.
Syphilis	10	13	23
Gonococcal Infection	7	2	9
Tuberculosis	8	—	8
Dental Infection	7	11	18
Tonsillar Infection	7	9	16
Genito-Urinary, Non Venereal	3	—	3
Other Infections	2	—	2
No Cause Found	1	—	1
Combined Infections	—	—	17
Sinus Infection	1	2	3

Lang, in opening a discussion on iritis at the Ophthalmological Section of the Royal Society of Medicines in June, 1917, tabulated the causes of 200 cases of iritis occurring in his private practice (see page 186).

What strikes one at a glance is that rheumatism, which was given as the cause of over 25% of cases in the first table, is not even mentioned in the second and third, while focal infections, chiefly dental and tonsillar, not mentioned in the first table, account for 20% of the cases according to Irons and Brown, and 25.5% according to Lang.

These tables will serve as an indication of the remarkable change in our ideas as to the aetiology of this disease that has occurred within the space of 7 or 8 years—a change that has been the subject of much discussion in ophthalmic circles in other parts of the world in recent years, with the conclusions, as these tables show, that rheumatism goes by the board as an aetiological factor, while focal infections, not previously given a place, get the credit, or blame, of being the cause of a large number of cases.

It seemed to me, therefore, when invited to select a subject for discussion at this meeting, that it would be fitting to have an expression of our opinions and experiences on this very important subject and, if in my remarks I appear unduly dogmatic on the one hand or sceptical on the other, I want you to understand that I am so simply to invite criticism, for I am quite open to conviction, though as yet unconvinced.

We are all aware that there have been and are fashions in various branches of medicine, including ophthalmology, as in other things, in customs, in politics, in dress, in sports and many other matters. Most of us, certainly all who have been long in practice, have seen many theories, many procedures, after a brief vogue, die a lingering, or sometimes sudden, death. Sometimes the fashions are, as far as we know, quite new: sometimes they are revivals of theories or methods tried and found wanting by clinicians in the past, and there were clinicians in those days. Because their experience was based on clinical observation, and had not the information of the newer so-called scientific or experimental schools, their views were apt to be looked askance at by a later generation and re-

Infections.	Alone.	With Other Infections.	Coincident Infections.					
			Syphilis.	Gonorrhœa.	Tuber-culosis.	Dental.	Tonsil.	Sinus.
Syphilis	10	13	8	—	5	5	1	1
Gonococcal Infection	7	2	—	—	—	1	1	—
Tuberculosis	8	—	—	—	—	—	—	—
Dental Infection	7	11	2	2	2	—	7	1
Tonsillar Infection	7	9	1	3	2	7	—	—
Genito-Urinary, Non Venereal	3	—	—	—	—	—	—	—
Other Infections	2	—	—	—	—	—	—	—
No Cause Found	1	—	—	—	—	—	—	—
Combined Infections	—	—	8	9	8	8	13	5
Sinus Infection	1	2	—	—	—	1	1	—

¹ Being a paper read before the Congress on Diseases of the Eye, Ear, Nose and Throat at Melbourne on November 1, 1918.

garded as theories on the one hand, or bogies on the other, built up on inadequate knowledge, and it be-

	Cases.	Percentage.	Causes of Iritis in 200 Cases (Lang), 1917.
Syphilis	12	6	Gout, 7; herpes of 5th nerve, 3; influenza, 1; pneumonia, 1
Gonorrhœa	24	12	Skin, 10 (ulcers, 4; acne, 2; eczema, 2; boils, 1; insect bite, 1); peritonitis, 1
Tubercle	22	11	Alimentary tract, 23 (gall-stones, 1; dysentery, 1; appendicitis, 1; colitis, 3; constipation, 17)
General Affections	17	8.5	Genito-urinary tract, 7 (cystitis, 2; after confinement, 2; vaginal discharge, 1; prolapsus uteri, 1; myoma, 1); injury, 1
Local Affections	51	25.5	Sympathetic ophthalmia, 1
Pyorrhœa	74	37	

came the duty of a later generation to expose them.

Let me give one example of many to point my moral. In my undergraduate days we were taught that it was dangerous to enucleate an eye with pan-ophthalmitis, because a certain number of cases (not many, but a certain number) of such enucleations were followed by fatal meningitis. I think it is about 10 or 12 years ago that a newer generation decided that this must be an old-fashioned fetish, for which there was no scientific or logical foundation. How, they said, could germs shut off in a casing, such as the eyeball, cause meningitis after a clean enucleation? So they began enucleating and presently one and soon a number of cases of fatal meningitis began to be recorded, and I believe we have now reverted to the fetish of our grandfathers. A late distinguished colleague discussed this very question with me and told me he intended enucleating such cases; he did so and very soon he met his Waterloo. I shall never forget his distress when his fourth patient died a few days after the operation from septic meningitis. Some still argue that these fatal cases would have occurred, enucleation or no enucleation, but the weight of evidence is heavily against them, and I doubt if many of them have the courage of their expressed opinions. Personally, though I have had hundreds of cases of pan-ophthalmitis, I have never enucleated during the active stage and have never had a case of meningitis.

Another revival was the simple extraction of cataract without iridectomy, now largely fallen into disuse.

Already we find some men giving up and the first enthusiasm of others waning in regard to trephining for glaucoma, which was introduced in a different form and abandoned by Argyll Robertson 40 years or more ago. We find that arsено-benzol for syphilis cannot be relied upon without the help of good old mercury and so on. It would be easy to multiply examples of the waning of fashions and enthusiasms.

This apparent digression has a bearing on what I have to say. Are we as scientific or as logical as we claim to be? Are we not like the Athenians, prone to run after some new thing? Are we not apt to mistake supposition for evidence and evidence for proof? Does it not sometimes appear sufficient for someone to start a theory, to invent some new procedure to get an enthusiastic following? Do we not frequently see what we want to see, find what we want to find? We have experienced many cycles. It is not so very long ago that the accessory sinuses were supposed to be the chief site of infection for iritis; then it was the tonsils; then intestinal infections. Now all of these are going out of fashion in favour of dental affections. I think I remember the ductless gland being drawn into the ring also. In our haste to run after some new thing, some of us appear to show an eagerness to divest ourselves of the imputation of being possessed, or even tainted by, old-

fashioned ideas. So much so is this the case in the present connexion that rheumatism has absolutely disappeared as an aetiological factor in iritis. It is not even considered, not even mentioned.

Time and space would fail me even to enumerate the writers who claim to find in dental diseases the cause of practically all cases of iritis, not due to syphilis, gonorrhœa, tuberculosis or trauma.

For the sake of brevity I shall use the word "dental" to include diseases of the teeth, jaws and gums.

The records of many of the cases are not convincing to my mind. We are given numbers of cases where an iritis "resisted all treatment" till a dental or some other focal infection was discovered and treated, when the iritis immediately cleared up. I wonder! In many cases we are not told what other treatment had been tried. It certainly cannot be a statement of fact that all other treatment had been tried, or tried in a proper way. The co-existence of a pyorrhœa or tooth abscess with an iritis proves nothing, unless other possible causes are eliminated. If other possible causes be present, it must be proved that treatment of these failed and that the removal of the supposed focus by itself resulted in cure. We are frequently not told if the other treatment had been stopped while the dental condition was being treated, or whether the patient's system was only then beginning to feel the benefit of some medication (a very important point). In a very elaborate paper by Steinbugler, of New York, in the *Archives of Ophthalmology* for March, 1918, teeming with statistics, results of blood examinations, discoveries of and cultures of organisms and results of inoculations, claiming cures by dental treatment, the whole edifice is brought crumbling to ruin in the last paragraph in which he says: "Besides the elimination of the dental focus, the patients received the usual treatment indicated in the various conditions, such as atropine, leeching, sodium salicylate, etc." One might be tempted to ask: What were the "indications" for sodium salicylate if rheumatism were not thought of?

One writer claimed that not only was iritis cured by dental treatment, but he had seen 3 diopter of astigmatism disappear after extraction of a tooth! What value are we to accord to the reasoning of such an observer in the one case in face of the other?

Far be it from me to assert that focal infections are not a cause of iritis. To do so would be to stultify my own position. Too many men of the highest standing in our specialty claim to be convinced that they are, but in all humility I say that to my mind they are cases of "not proven"; but even if proved, can it be reasoned that there is no such thing as rheumatic iritis?

How does dental infection invade the iris? Here we have differences of opinion—all theoretical. Some say the infection of the iris is toxæmic, and propose

the name toxæmic iritis. Now, I am not a pathologist, but would ask: Is it usual for a toxin circulating in the system to cause such a localized inflammatory exudation? Others claim that the invasion is microbic and through the blood stream. We know something of the selective action of microbes, but in this instance we must suppose that the organisms form colonies in the iris alone, after passing by other structures, and yet do not favour the homologous ciliary body or choroid to the same extent. That is sought to be explained by the formation of emboli in the iris, because there is in that structure a terminal circulation. The retina, which has a more truly terminal circulation, escapes. We do not hear of retinitis from dental infection, but syphilis and tuberculosis do not confine their evil activities to the iris alone.

Further, we are to suppose, not only this migration of microbes to the iris, but also that it is necessary for the tooth abscess to continue to send reinforcements; otherwise we cannot explain why immediately the tooth abscess is cured, the iritis disappears. We should expect the colony to be self-supporting for a time, even if the original source were destroyed.

Others claim that in 95% of cases the iritis is on the same side as the offending tooth. They will not have the blood stream theory, but say the invasion of the iris is by way of the lymphatics and osseous passages. Is it not surprising that pyogenic organisms travelling in that way should excite a sero-plastic inflammation? Should we not expect a parenchymatous or purulent iritis? And yet we do not get it in these cases. Those who say the organisms are carried by the blood stream, try to explain their non-pyogenic properties when they reach the eye, by supposing that their virulence is attenuated by dilution in the blood stream. But "like tends to produce like" is one of our axioms. The organisms would still be pyogenic, even though attenuated.

Fifty-three cases of supposed dental infection of eyes in the Hermann Knapp Memorial Hospital showed acute iritis, 13 acute choroiditis, 10 chronic irido-cyclitis, 9 post-operative iritis, 4 detachment of retina, 4 episcleritis, 2 dendritic keratitis and 1 each of chorio-retinitis, chronic cyclitis, irido-choroiditis, interstitial keratitis (non-specific), vesicular keratitis, kerato-iritis, retro-bulbar neuritis, retinal hemorrhage and ulcer of the cornea. Fifteen of the 53 cases were mixed infection, 3 being syphilitic and 12 tubercular. There is another curious thing about this table. In this series of 53 cases, 52 showed dental infection on the same side as the affected eye. Whether the other case was contra-lateral or bi-lateral is not stated. That is to say, we are to believe that in 53 cases of ocular inflammation, of which number 40 were visual, only one eye was affected in every case. Is that our experience of such diseases?

Now-a-days there is a doubt as to whether there is such a disease as rheumatism *per se*. It is suggested that the various diseases called rheumatism, comprising acute and sub-acute and gonorrhœal rheumatism, rheumatoid arthritis, *osteitis deformans*, myositis and fibrosis, etc., are all septic or toxæmic in origin. But though as yet we have only nebulous ideas about the various sepses or toxins, we have a pretty fair clinical conception of what is implied by the term "rheu-

matism." The burden of proof that rheumatic affections are in reality forms of sepsis is on those who make the claim.

Now it is generally accepted that 95% to 98% of civilized people suffer or have suffered from one or other form of dental trouble, such as *pyorrhœa alveolaris*, alveolar abscess, caries, gingivitis, etc.

If these be causes of iritis, why is iritis comparatively so rare? From 95% to 98% of people suffer from them. In what percentage of the population do we see iritis, not otherwise accounted for by syphilis, gonorrhœa, tuberculosis or traumatism? Do we find it in 1%? Do we find it in 1‰ of the people who have, focal lesion in the jaws, gums or teeth? Is it only the permanent teeth that cause iritis? For we rarely find non-syphilitic, or non-traumatic iritis in children in whom dental troubles are most frequent. Knowing the prevalence of syphilis, gonorrhœa, tuberculosis and, I will add, rheumatism, do we eliminate all of these in a case of iritis of supposed dental origin? On the other hand, in over 30 years' practice as chief of the ophthalmic department of the largest general hospital in Australia and a considerable private practice and, though of late years I have been on the look out for dental troubles and other focal infections as a cause and have got advice and treatment in all doubtful cases from dentists and physicians, I have rarely, if ever, met with a case in which I could satisfy myself that the teeth were the cause. I admit, of course, reflex neuroses of dental origin, neuralgias, amaurosis, strain of accommodation, etc., of which we have all met with numerous instances. They are cured by dental treatment, but are reflex and not inflammatory. In the same way, I have frequently seen the pain accompanying iritis relieved after the extraction of an abscessed tooth. Doubtless, this, in many cases, relieves the iritis by quietening the nervous system and promoting sleep, a very important factor in the relief of iritis.

Now I propose going a step further and introduce what may be called therapeutic evidence of a rheumatic causation. Excluding syphilitic, gonorrhœal, tubercular, sympathetic and a few other cases of iritis, for which a probable cause or association can be found, my experience is that most, in fact nearly all the cases showed benefit or cure after proper anti-rheumatic treatment. You will understand of course the sense in which I use the word cure. After a well-established case of iritis there is rarely a complete *restitutio ad integrum*, inasmuch as iritic deposits generally remain on the lens capsule, but I mean by "cure" that excepting these, no signs of former iritis can be discovered. Nor do I claim that in long-standing or recurrent cases of iritis with permanent adhesions, perhaps atrophy of iris and other sequelæ, cure can be obtained, but in the sense in which I used the word, cure can be brought about in practically all acute and sub-acute cases (though dental disease may co-exist and remain) and amelioration and subsidence of the attack in the others, by the proper use of salicylates combined with appropriate local ocular treatment; I have never seen toothache or dental abscess cured by this drug. Operation may, of course, be required in old-standing or recurring

cases. You will frequently see the statement made: "salicylates were tried without effect," but how were they tried? The dosage is seldom mentioned, or if mentioned, we find that 0.65 or 1 grammie have been ordered three times a day. In many cases no result will be achieved by such quantities, but give 1.00 or 1.25 grammie every two or three hours—10 to 12 grammes, or even more in the 24 hours—and we find the difference. It is a *sine qua non* that the patient should be put to bed in acute cases and a saline aperient given, and to counteract the depressing effects of such large doses of salicylate, double the quantity of citrate of soda should be given with each dose of salicylate. This combination was first brought under my notice by my friend, Lockhart Gibson. Before that I used to give a teaspoonful or so of brandy or whisky with each dose. The citrate has many advantages over this.

Just as we frequently do not get the full benefit in syphilitic cases until we approach the point of salivation, so in what I call rheumatic cases, we frequently do not get the benefit of the salicylate until the point of saturation of the system with the drug is approached. It is the same with colchicum in the treatment of gout. By the way, gout you will see given by Lang as a cause of iritis. If gout can cause it, presumably by some alteration in the blood, why not rheumatism?

Now I have been told that my so-called rheumatic cases are probably gonorrhœal or gouty or rheumatoïd arthritis. In the first place, in as far as possible, I eliminate gonorrhœa and this with the alleged fact in mind that gonorrhœa can remain latent in the system for 15, 20 or even 30 years. I do not know on what evidence this statement is founded—I have seen it denied by competent authorities—or how the possibility of a later infection, for obvious reasons, denied, can be excluded.

In the second place the therapeutic evidence afforded by the clearing up of the iritis by salicylate of soda is almost conclusive that these cases are not gonorrhœal, for I think you will all agree with me that salicylates have no effect on gonorrhœal arthritis. Again it has been stated (by Bishop Harmann, amongst others) that we rarely see iritis in subjects of acute rheumatic fever, and never during its progress or convalescence. Now I have seen scores on scores of cases in persons giving a previous history of rheumatic fever confirmed by their medical attendants, and I have seen two cases in which iritis occurred during convalescence after rheumatic fever.

There are two possible reasons that occur to me to explain why such associations are not more frequently noticed by ophthalmic surgeons. One may be that a patient with rheumatic fever is not, as a rule, seen by an ophthalmic surgeon, but is attended by a physician or general practitioner; it would be worth while to try and find out the experience of physicians on this point. Physicians have told me they have seen this association. A second reason for non-appearance of iritis during the attack or during convalescence may be that the salicylates in the system prevent its development. I only throw these out as suggestions. I saw one of the two patients with iritis occurring immediately after recovering from

rheumatic fever (not gonorrhœa) many years ago when in general practice. The following winter he had another attack of iritis. Five years later he consulted me for episcleritis. The following year he was laid up for five weeks with rheumatic fever, but no iritis followed. I did not see him again for another 12 years, when he came to get his refraction seen to. He had 0.5 D. hypermetropic astigmatism and 1 D. of presbyopia. He said he had had "much rheumatism" during these years, but no iritis. The second case was that of a young man who, during convalescence from rheumatic fever, got iritis in both eyes. His visit to me was the first time he had been out of the house since the attack and he would not have been allowed out even then, but that his physician wished him to consult a specialist about his eyes. I could find no other cause for the iritis and he got well rapidly under full doses of salicylate and local treatment.

Now I do not suppose that many will as yet deny the existence of a rheumatic diathesis. At any rate I have not met any physicians or general practitioners who are prepared to do so. If we grant, then, the existence of a rheumatic diathesis, see how many cases of iritis conform to what we see in rheumatism, be it articular, myositic or fibrositic. A cold, a wetting, or a chill, or trauma may cause an iritis, just as well as other rheumatic affections; the iritis is cured by the same treatment, rest, warm applications and good old salicylate. Perhaps those are correct who maintain that the strain of uncorrected ametropia may determine the site.

Observe also the resemblance between many cases of iritis and rheumatism apart from similarity of a cause and amenability to the same treatment, viz., the tendency to recurrence, the fact that in rheumatic iritis the exudation is more serous, or less plastic than, say, in syphilitic iritis; synechiae not so early formed, are not so dense and are more easily detached. The patchiness of the injections in rheumatic iritis prevents a similarity in this respect to scleritis, which is, or at any rate used to be, considered rheumatic and which also generally yields to salicylates. I have recently seen two cases of rapid recovery from scleritis, when the swelling was so great as to have caused the suspicion by others of neoplastic growths, under massive doses of salicylates, with small doses of aconite (which often relieves pain remarkably in these cases). Both these patients had had weeks of treatment with 0.6 grammie doses of salicylate three times a day without the slightest benefit.

Another focal infection given (not so frequently now that the dental theory is fashionable) is by way of the tonsils. We all know the association of tonsillitis with the rheumatic diathesis and probably all know that an ordinary tonsillitis can be aborted, if taken early enough, by frequently rubbing into the tonsils some powdered salicylate or bicarbonate of soda.

Now I suggest that a rheumatic iritis may be of the nature of a myositis, or fibrositis of the muscular and connective tissue of the iris caused by chills, or exposure, or slight trauma, or errors in diet, with imperfect metabolism of proteins in a rheumatic subject, just as myositis, fibrositis, or arthritis may be caused elsewhere. Other things may alter the com-

position of the blood besides microbic infection or invasion, such as unsuitable food and other poisons taken into the system *via* the mouth.

New let us return to these tables again and look at the number of cases said to be tubercular, 8% in Irons and Brown's; 11% in Lang's of all cases of iritis.

Now, gentlemen, I would ask you as practising ophthalmic surgeons, is that your experience? I have seen a few cases of iritis in persons suffering from definite tubercular lesions, pulmonary or other, in which one could assume that the iritis might be tubercular, but in my experience the proportion of such cases of iritis is not more than 1%, probably less. Pathologists tell us that tubercular foci are present at one time or another in over 90% of the population and that every post-mortem examination, if thoroughly performed, in all adults will show old tubercular lesions, which means, I presume, that every living person would at some time or other give a positive tuberculin reaction. Does it seem reasonable or logical to assume that iritis in a person showing a positive reaction is tubercular? And that apparently is the evidence on which these tables are compiled, for we are told that amongst the experiments to determine the causes, tuberculin injections were used. Von Pirquet's test, as evidence of active tubercular processes, is, of course, valueless, unless very strongly positive. It discovers healed as well as active foci.

Moreover, here is a strange thing. There is a form of disease, tuberculosis of the iris, though I do not suppose anyone of us has seen many cases of this rare affection—the nodules in the iris, or larger mass, resembling a neoplasm in appearance, and subsequent progress, enlarging and finally penetrating as a fungating mass, but then breaking down and leaving an atrophied stump of a globe—and yet, and here is the strange thing, the solitary tubercle develops without any symptoms or signs of iritis. If iritis is so prone to be caused by tuberculosis, would we not expect a tuberculous focus in the iris itself to cause it?

I should like subsequent speakers to say if they are prepared to accept the statistics of tubercular iritis as given in these tables, as even approximating to their experience. If these figures for tubercular cases be not acceptable, I think we have good reason for looking with suspicion on the figures given for dental and other focal infective cases compiled by the same investigators.

Even if it be granted that sepsis introduced by way of teeth, tonsils or alimentary tract may be a cause of what we have been accustomed to consider as rheumatic iritis, it appears to me that the advocates of this theory or hypothesis (for it is little more) attempt to prove too much when they say, as they do, that 25% to 35% of cases of iritis are due to dental or tonsillar affections and are beyond the limit altogether in claiming 8% to 11% of cases as due to tuberculosis. Leaving out syphilis, gonorrhoeal and focal infective cases, nearly all the rest are tubercular!

The pendulum has swung to its limit and, as Hermann Knapp once said: "Not till a boom has subsided shall we be able to arrive at a fair conclusion."

Reports of Cases.

NEURO-MUSCULAR ATROPHY.

By Arthur Watkins, M.B., B.S. (Melb.),
Griffith, New South Wales.

I came across a case, in a construction camp about thirty miles from civilization, presenting unusual features. The patient, a girl, twenty-one years of age, noticed three weeks ago numbness and tingling of legs and feet and rapid wasting of legs. Within seven days from onset of this a similar condition was observed in forearms and hands. On examination the wasting was very evident, as was its strict limitations to the forearms downwards and from knees downwards. The hands were just beginning to resemble the "griffin's claw." Fibrillary contractions were present in the atrophied muscles and vaso-motor changes were apparent. There was a marked deposit of subcutaneous fat extending from the nape of the neck to the first dorsal vertebra. The neck was much thickened owing to deposits of fat. I put her on thyroid gland 0.3 grm. daily, for a week with the result that all the fat disappeared.

The following is a clinical account of the case:—
Miss A.B., *at*. 21, a milliner, had rheumatic fever three



years ago and was ill in June, 1919, with pneumonic influenza for four weeks. Her menses started at 15 years and continued regularly until three months ago, when they ceased. About four years ago her neck had got very "fat." In the beginning of December, 1919, she noticed numbness and tingling of the feet and toes and the legs from knees downwards began to shrivel. A week later the numbness and tingling

began in both hands and the hands began to waste. She was unable to walk, but could use the hands for work, such as washing, but was unable to do sewing etc.. Her temperature was normal, pulse rate 80 and respirations 19 to the minute. The cranial nerves were apparently normal. Her



memory was good. There were vaso-motor disturbances in the feet and hands and cramps were frequent. There was slight anaesthesia over the atrophied parts and loss of tendon jerks. Fibrillary contractions of atrophic muscles were present.

The accompanying pictures represent the condition of the limbs.

I regard this to be a case of neuro-muscular atrophy of the Charcot-Marie-Tooth type.

SUPERACUTE PULMONARY EDEMA.

By H. Leighton Kesteven, D.Sc., M.D., Ch.M.,
Sydney.

Five recent contributions on this subject by Southwood (1 and 2), Litchfield (3), Booth (4) and Hay (5), lead me to record my single experience with the condition.

L.B. (female, aged 35, married, four children, youngest 6 years), was seen on the evening of April 20, 1919, sitting propped up in a large arm chair, breathing very rapid, too short of breath to speak above a hurried whisper, cyanosis very marked, lips and ears dusky blue. From time to time a slight cough was followed by the voidance of a remarkable quantity of glairy, blood-stained, thick,ropy mucus. The

amount of this mucus was truly astounding; at times it seemed to pour in a ropy stream out of the mouth. One coughing fit produced half a cupful.

On examination the two apices alone yielded resonant tones to percussion; the note over the rest of the lung was almost like liver dulness. It was found impossible to percuss out the heart, which could be felt beating outside the nipple line in the fifth interspace. A loud murmur was clearly audible over the apex beat and in a circumscribed area there around, but was not conducted in any direction more than another. The pulse was 134; the temperature was 35.6° C. (hypothermal stage of influenza).

Inquiry elicited a history of rheumatic fever. Pregnancy was obvious; it was said to be about five months.

The attack had come on quite suddenly. The patient had appeared quite well at the evening meal, but for being a little "run down" after a slight attack of influenza a few days previously.

The case was regarded as hopeless, as the patient appeared to be dying at the time. However, glonoin, 0.0006 grm., digitalin, 0.0005 grm., and strychnine, 0.0012 grm., were given hypodermically. The pulse certainly steadied at once. A mixture of tinctures of digitalis, ipecacuanha and tolu, with liquor strychninae hydrochloratis and spiritus etheris nitrosi, was ordered to be given every four hours. At about 10.30, approximately two hours later, the hypodermic injection was repeated and tincture of ipecacuanha was placed in the hands of the nurse to be used to produce vomiting, should the patient fail to cough up the mucus and appear to be choking. Twice during the night the ipecacuanha was used. Early next morning the patient appeared much easier and a third hypodermic injection was given. The pulse was now 112 and the temperature still sub-normal. From this on the patient made a rapid recovery.

The heart was found to present left-sided dilatation, i.e., the area of heart dulness was increased to the left of the nipple line. There were no clinical signs of enlargement of the right side of the heart. The murmur was conducted well up toward the left axilla and was regarded as being due to mitral insufficiency. As far as I was able to determine, the other valves of the heart were sound.

Subsequent history.—The patient was kept under observation till the fifteenth of the following month. The heart steadily returned toward normal size, the most marked reduction taking place in the first few days. An obstetrical examination did not appear to be necessary, as there was no complaint and she stated that the baby was moving. On the 29th I was again sent for and found her in labour. Premature birth of an approximately 5-months' fetus followed. This had long been dead, probably since the date of the attack of superacute edema, certainly not much later.

At the present time the heart is no more enlarged than one would expect in the presence of a long-standing mitral insufficiency. The patient is in as good health as that condition admits.

The attack was diagnosed as primarily acute dilatation of the left side of the heart, probably caused by influenza toxins acting on an already weakened heart and resulting in acute edema of the lungs.

I ascribe the recovery to the combination of glonoin and digitalin with strychnine.

Hay (5) states that three patients died "apparently purely as the result of a gradually increasing edema of the lungs." Autopsies were apparently not performed. I am inclined to believe that the fatal issue in such cases is due essentially to the complete failure of the left side of the heart, as maintained by Litchfield. The extreme flooding of the lung alveoli which was present in my case, as evidenced by the complete absence of lung resonance except in the apices, is a confirmation in the human subject of the results experimentally obtained by Winternitz and Lambert (6) in animals and supports their conclusion that death is not due so much to asphyxia as to other causes.

I am of the opinion that the glonoin acts essentially as does venesection, that in fact by its administration the patient is bled into the peripheral system, and I believe more effectively than can be done into a basin with a scalpel.

References.

- (1) Southwood, A. R., *The Med. Journ. of Australia*, October 4, 1919.

- (2) *Ibid.*, October 25, 1919.
 (3) Litchfield, W. F., *ibid.*, October 11, 1919.
 (4) Booth, J., *ibid.*, November 15, 1919.
 (5) Hay, G., *ibid.*, November 29, 1919.
 (6) Winternitz, M.C., and Lambert, R.A., *Journ. Exper. Med.*, XXIX., 1919.

NOTES ON A CASE OF PURPURA HÆMORRHAGICA.¹

By E. A. Elliott, M.B., Ch.M.,
Hobart, Tasmania.

On the evening of July 21, 1919, I was called to see a child of three years.

He had been running about during the morning, but complained of pains in the back of his legs in the afternoon and later in the day mottling of the skin was noticed by the parents.

On examination there were seen over both buttocks swellings which were of unequal sizes—from that of a pea to about 5 cm. in diameter. To palpation they were tense; their colour was bright red and shining. On the lower part of the thigh and extending to the popliteal space there were irregular-shaped, bluish-coloured mottlings, each mark being about the size of a pea. There were subcuticular extravasations across the lower part of the back. Examination failed to reveal any abnormality of the heart or lungs.

Throughout the night the child was restless. In the morning of July 22 the swellings were still reddish in colour and hard on palpation, but less tense than on the previous evening. The irregular spots and blotchings had spread down the flexor aspect of the legs to the feet, including the soles. They had also appeared on the arms. But the face and body were free, excepting the lower lumbar region, buttocks, on the scrotum and around the anus. Free action of the bowels occurred (following purgatives given night and morning) and contained minute traces of bright blood.

By the afternoon of the 22nd the redness of the affected parts had changed to bluish purple and hardness was no longer detected on palpation. During the evening the child vomited several times, the vomit containing clear fluid, with bile and a slight amount of blood. Towards morning a stool was passed containing dark blood.

In the morning of the 23rd the child seemed considerably better. The areas over the buttocks had assumed a yellowish hue; the smaller bluish spots elsewhere were hardly changed. Towards evening three fluid motions were passed, all containing dark blood.

The child rapidly improved and in a few days had regained full use of his legs; there had been disinclination to move them during the acute stage.

For six months the child has been well and is so at present.

Treatment.—When first seen calomel, 0.12 grm., was given; this was followed by saline next morning.

During the morning of the 22nd, after consultation with Dr. James Sprent, a hypodermic injection of 0.003 grm. of morphine was given; and a few minutes later 10 c.c.m. of horse serum were injected subcutaneously at the border of the right *rectus abdominis* muscle.

During the afternoon a further similar dose was given on the left side, although there were no further signs of haemorrhage. Throughout the acute stage the child was kept on fluids.

The aetiology of *purpura haemorrhagica* is discussed in an article in the *Medical Clinics of North America*, July, 1918. The author (Rheuben Ottenberg) states that the existence of platelets in the blood exercises a constricting influence on the capillaries and that in this disease there is a great diminution of these bodies. This leads to dilation of the thin-walled capillaries, thus permitting the escape of blood into the tissues. The blood does not appear to be affected otherwise and it clots normally. Horse serum appears to act beneficially in preventing the escape from the vessels.

¹ Read at a Meeting of the Tasmanian Branch of the British Medical Association on January 6, 1920.

A CONFINEMENT CASE COMPLICATED BY HYDROCEPHALUS.¹

By E. Brettingham Moore, M.B., Ch.M. (Syd.),
Hobart.

I was recently called to attend a woman whom I had confined in November, 1918, with twins. On arrival I found a foot presenting at the vulva and had recourse to attempt delivery by the usual method for a breech presentation. The child was very large. It was afterwards found that its weight was 5,900 grammes. With considerable difficulty I freed the arms, but the head was absolutely immovable. Another medical practitioner was asked to assist me in the impasse. After a thorough trial of traction on the shoulder and the mouth, assisted by supra-pubic pressure, we decided that delivery was impossible without perforation and comminution of the head. The fetus was decapitated. On introducing my hand into the uterus, I found that the head was enormous, but very soft and easily moulded and the sutures were very wide. I then turned the head to cause the vertex to present and applied forceps to steady it. Traction was applied, but, as the head was still obdurate, it was perforated. A gush of water clinched the diagnosis of hydrocephalus. The forceps slipped off the head, but a mild pull with my finger in the perforation was sufficient to deliver.

The chief point of interest is whether the right course was pursued in decapitating, or whether an attempt should have been made to perforate the after-coming head without decapitation. I must admit that I was largely influenced in favour of decapitation by a previous experience. In this case, one of contracted pelvis and a breech presentation, I had had recourse to perforation of the after-coming head. A comparison of these two cases leaves me with a strong bias in favour of decapitation.

Reviews.

GYNAECOLOGY.

"Diseases of Women," edited by Comyns Berkley,² is a companion book to the "Midwifery" by the same ten authors, who are amongst the most distinguished gynaecological and obstetric teachers in London.

There has been an attempt to make the responsibility for each section general and thus to avoid overlapping and other disadvantages of collective authorship.

Gynaecology from the point of view of State medicine has been discussed and a précis given of the report of the Royal Commission on Venereal Disease.

A special chapter has been devoted to the psychological factor so as to encourage the student to take into account the character, temperament and life of each individual patient and thus enable the practitioner to appreciate the vast importance of the mind in aiding or retarding recovery from every injury and disease in all human beings, especially women. This chapter is a valuable one and should be read by all practitioners. On the one hand the lesson is inculcated that real disease should be excluded by thorough examination before dubbing the symptoms "neurotic" and, on the other, that operative measures should only be advised after a broad view of the particular case and all connected with it is taken. We are glad to see that the authors scathingly condemn the removal of an ovary because of the presence of physiological follicular cysts, or because the patient complains of "pain in her side." "To remove the ovary for neuralgic pain is as unreasonable as to remove the eye for supra-orbital neuralgia."

The first section of the book, consisting of five chapters on the anatomy of the pelvic organs, including the pelvic floor, the development, ovarian secretion, puberty and menopause, is very good. The plates and diagrams illustrating this section strike us as new and are certainly helpful. It may

¹ Read at a meeting of the Tasmanian Branch of the British Medical Association on January 6, 1920.

² Diseases of Women, by Ten Teachers, under the direction of Comyns Berkley, M.A., M.D., M.C., F.R.C.P. Edited by Comyns Berkley, H. Russell Andrews and J. S. Fairbairn; 1919. London: Edward Arnold; Royal Svo., pp. 650, with 238 original illustrations.

be argued that the student should consult works on anatomy and physiology for these matters, but, on the whole, we think it makes for economy of time and is generally preferable that one volume should contain all the important facts bearing on treatment, operative or otherwise.

The description of methods of examination is good and exact, but it would be highly inconvenient, if not impossible, to carry them out with the patient in the semi-prone position as recommended by the authors. Neither the patient nor the surgeon should have any thought but the carrying out of the examination with thoroughness, gentleness and rapidity. This can best be done in the dorsal position, with the parts thoroughly exposed. The illustrations of Fergusson's and Cusco's specula are waste of space, the modified Neugobauer is infinitely superior in every way. The shape of the Sim's speculum as illustrated is faulty; the blade should meet the shaft at an acute, not a right angle; shaped thus it is self-retaining in dorsal or lithotomy positions and gives a better view of the vault in the semi-prone position.

The next chapter on amenorrhoea is very complete. The authors rightly say amenorrhoea does not cause insanity. Grave mental symptoms in a girl suffering from amenorrhoea may disappear completely after the menstrual flow has been re-established by thyroid and general hygienic measures.

No fault can be found with the section dealing with uterine haemorrhages, except perhaps the apparent conviction on the part of the authors that exploration of the uterine cavity with the curette will clear up the diagnosis. The gynaecologist may be misled on frequent occasions by microscopic examination of uterine scrapings. Curettage in cancer of the uterus is dangerous, as it may lead to the extension of the disease. Haemorrhage from the uterus in an elderly woman not amenable to palliative treatment warrants total hysterectomy (not sub-total) provided, of course, that the operator possesses the necessary experience and skill.

The subjects of dysmenorrhoea, leucorrhoea, abdomino-pelvic pain, pruritus, dyspareunia, sterility are all treated comprehensively and wisely. Dysmenorrhoea is divided into that with and that without physical signs. The removal of the ovaries for dysmenorrhoea is very properly condemned, as is also the giving of alcohol and opiates or chloral at the painful periods.

In the chapter on sterility the authors state:—

Artificial impregnation, while undoubtedly successful with mares and cows, has been done so seldom . . . that no proper opinion can be formed as to its value.

Before undertaking operative treatment for sterility, defects on the part of the husband should be excluded.

Under uterine displacements we are glad to see that the authors place as the chief factors in the mechanism by which the uterus is maintained in its normal position, intra-abdominal pressure and integrity of the pelvic floor as first in importance. This complicated subject is treated shortly, but very clearly and without any special pleading. The only criticism we would make is that some mention might have been made of the juxtaposition of other viscera forming with the uterus a wedge with the apex below and thus helping to prevent the uterus being forced down by strain (Paramore).

In explaining why "prolapse" sometimes occurs in virgins, the authors forget to mention perhaps the most potent cause—skeletal defects—although retro-displacements are divided into congenital and acquired; the same omission is noted in the description of the former.

In the chapter on treatment of retro-displacements all the disadvantages of pessaries are detailed, yet, strange to say, the use of even the sepsis-producing rubber ring is advocated. For the operative treatment of retro-displacements the Gilliam operation is recommended.

The chapters on pelvic inflammation are very good, although the truth of the following statement may be challenged: "The majority of patients with gonorrhoeal infection recover completely and even obtain restoration of function in the tubes as proved by the subsequent occurrence of pregnancy." This is probably true in not more than 1% or 2%; the vast majority of sufferers from gonorrhoeal salpingitis are sterile ever after and are always exposed to the danger of a recurrence.

In dealing with pelvic abscess the authors emphasize the great danger of infecting the general peritoneal cavity. If

a two-stage operation brought before the profession many years ago by Dr. R. Worrall, of Sydney, were adopted this danger would not exist. The pus should first be evacuated by vaginal celiotomy and the cause of the abscess dealt with 7 to 14 days afterwards.

The attention of practitioners is drawn to the danger of curetting for menorrhagia or discharge when there is any evidence of pelvic inflammation.

The section on infections of the generative system is brought to a conclusion with excellent chapters on venereal diseases and tuberculosis. The former contains a summary of the report of the British Royal Commission on the subject.

In discussing fibro-myoma the authors say: "There is no satisfactory evidence of the transformation of fibro-myomata into sarcomata," yet they make the further statement: "Sarcoma may arise in a fibroid." This is a distinction without practical difference. On the whole the fifty-six pages devoted to fibro-myomata are judicious and contain all the information required by practitioners. We are glad to see the statement: "Curetting as a palliative treatment for these tumours is generally acknowledged to be bad practice."

It is also pointed out that "X-rays act by causing atrophy of the ovaries." "It can never appear scientific to destroy healthy ovaries in order to treat a diseased uterus."

An interesting statement from the section on *cancer uteri* is that "a study of the Middlesex Hospital statistics shows that heredity plays no part in the incidence of the disease."

The chapters on tumours of the ovary and ectopic gestation are full of information and practical points. "Operation for ectopic gestation should be undertaken as soon as the diagnosis is made." Even "in advanced pregnancy opinion of late has veered towards immediate operation." The writers say if the placenta in advanced ectopic pregnancy is dealt with by marsupialization of the sac "it may come away *en masse* or may break down and be discharged in pieces." There may also be permanent retention of the placenta without detriment to the patient.

There is an excellent chapter on urinary disorders. There are no obvious omissions, except a reference to the value of pituitrin in retention of urine following labour or operations.

Sections on "the acute abdomen" and "neurasthenia in relation to pelvic disorders" are welcome innovations which will be frequently consulted by the possessor of this book.

The final section on operations is short but good. The pages dealing with pre-operative treatment, operation preparation and post-operative treatment are especially good, but it is a pity that there is no mention of morphine in the treatment of shock.

In regard to technique the use of a purse-string suture in anterior colporrhaphy to hold up the bladder will not meet with universal approval; many authorities hold that bringing together the fascial pillars by transverse sutures is all that is necessary.

The legends under figures 235 and 238 have been transposed by mistake.

Taking into consideration the size, scope, clearness of expression and sound knowledge, we think this is the best book on gynaecology in the English language for students and practitioners.

Dr. F. S. Lister, Research Bacteriologist to the South African Institute for Medical Research, received the honour of knighthood in January. Sir Frederick Lister's work in connexion with the differentiation of types of pneumococci and with the vaccine treatment of pneumonia is well known to Australian practitioners.

Another recipient of the honour of knighthood in the New Year list is Dr. H. J. Gauvain, the Medical Superintendent of the Hospital for Crippled Children at Alton, in Hampshire. His contributions to the knowledge of tubercular diseases of bones and joints have attracted much attention in the past.

The annual meeting of the American Congress on Internal Medicine is being held in Chicago between February 23 and February 28, 1920. We understand that the American College of Physicians is participating in the Congress.

The Medical Journal of Australia.

SATURDAY, FEBRUARY 28, 1920.

The Australasian Medical Congress.

Australasia, divided from the rest of the educated world by thousands of miles, suffers a great disability in regard to the opportunities for the interchange of opinions. In Europe, national and international congresses of medicine and of other sciences take place perhaps too frequently. Not every European congress is the stage of valuable contributions to knowledge and of well-considered discussions. There has arisen within recent years a "congress man," an individual who specializes in talking at every international gathering connected with his calling, and who finds it commercially good business to extend his foreign acquaintance in this way. There are also men who visit congresses because they like the social entertainment and because they find meetings of this kind restful and enjoyable. To them the scientific sessions have little attractions and their visits to the sections are few and brief. Congresses have often been utilized for the purpose of conducting polemics and dramatic debates, to the amusement rather than to the advantage of the remaining members. But with all their defects and abuses, congresses serve an incomparably valuable function in bringing scientific workers face to face with each other. Difficulties and disagreements disappear in the twinkling of an eye when the personal element is introduced and when the force of the other man's arguments is supported by intonation, gesture and the full earnestness of the enthusiast warming up to his subject. In the great arena of scientific medicine—the congress—advances are often recorded. Discussions are often arranged in which the leading experts in a particular specialty or branch of medicine take part and the result is always enlightening. Not only are maturer views encouraged and stimulated, but when the workers return to their usual fields of labour they feel an augmented impetus to produce better results and to sharpen their powers of observation and of ingenuity. While the old world

can offer a wide scope in the interchange of opinions at these oft-recurring meetings, Australasia has to content itself with a somewhat restricted opportunity. Nevertheless, periodic gatherings of persons with common interests and objectives have proved themselves to be of immense advantage. In medicine there is a natural tendency for practitioners to know too little of the point of view of their colleagues in other States. It is true that service in the Australian Army Medical Corps, thanks to the broad outlook and splendid courage of General Sir Neville Howse, has broken down the parochial barriers of State distinctions. It is true that the Federal Committee of the British Medical Association in Australia has done much to co-ordinate the aspirations and achievements of the medical profession in the Commonwealth as a whole. It is true that the institution of this journal has opened up possibilities which were non-existing before the British Medical Association in Australia possessed an official Federal organ. More, however, needs to be done to inculcate in the minds of the members of the medical profession on this side of the world a feeling of close association and a desire to create a really united Australasian medical profession.

On ten occasions the artificial barriers between the States have been removed and medical men have met to discuss frankly and without reserve questions pertaining to medical science with their brother practitioners from other parts of Australasia. The Australasian Medical Congress has established for itself a permanent reputation. It is an institution of the highest importance to the medical profession and to the community. After six and a half years of hibernation, it has again awakened to offer fresh opportunities to its members and to gather the searchers after truth for the purposes of penetrating a little farther into the hitherto unfathomed mysteries of medical science. We anticipate a successful resurrection of the Congress at Brisbane in August of this year. Already the executive is receiving evidence of the popularity of the Congress. Brisbane will no doubt be taxed to its utmost capacity to encompass all those who will enrol as members. There will be many important subjects to be examined by those who have studied them carefully and closely during the past six and a half years. The whole Common-

wealth will look expectantly to the scientists who will take part in the organized debate on the White Australia problem. If sufficient knowledge has been garnered, an authoritative expression of opinion will be delivered on the possibility of developing tropical Australia by means of white labour and of the expediency of endeavouring to carry out this task. Other subjects may awaken equal interest.

The Congress has been successful in the past. It will be even more successful in August of this year, if the members of the medical profession will think Federally and Imperially. No one who can manage to leave his home and practice for the short space of a week, can afford to keep away. It is the duty of medical practitioners to seek the forum of Australasian medical science. The future of the Congress is a little uncertain, since the suggestion has taken practical shape that it should become a congress of the British Medical Association. Its machinery may change and it may be decided that its membership shall be limited to a certain extent. Its essence, however, will remain the same. It will, we feel convinced, continue to be the one institution for gathering together the workers in the medical profession of Australasia for the purpose of comparing notes, of discussing difficulties and of promoting the welfare of the community.

A BABY WEEK.

Hygiene and preventive medicine are subjects that have caught hold of the public, although it must be admitted that the ordinary citizen has very vague ideas concerning the significance of the one or the practical possibilities of the other. The medical profession has gradually awakened to the fact that it is wasteful and short-sighted to concentrate its attention on the cure of existing pathological conditions, as compared with the endeavour to create a healthy environment for the people, to foster a healthy race and to keep that race healthy. Much spade work must be done before material changes can be registered in the morbidity and mortality rates. This work must be carried out by the medical profession, because it is expert work, necessarily based on prolonged training in the medical sciences. Complete

success, however, cannot be achieved unless the experts can command some degree of co-operation of the people. For this reason any campaign aiming at the better education of the masses in the general principles on which hygiene and preventive medicine are being built, must commend itself to us. This educative endeavour must emanate from the medical profession in co-operation with the intelligent layman who is fully seized of the essentials of the problems to be attacked and solved. Within a few weeks an organized effort will be made in Sydney and other centres of New South Wales to focus public attention on a highly important chapter in sociological medicine, the proper care of infants. From March 29 to April 3, 1920, a Baby Week will be held throughout the State of New South Wales. The public is to be told in a thousand and one ways the saddest of all sad stories, the continuous destruction of unborn and newly-born infant life by ignorance and neglect. It is impossible to estimate the exact number of babies that might be saved, if every mother realized how to perform the plain duties of motherhood, if every expectant mother were given a reasonable chance to bear her child in safety, if every mother were protected from the fearful ravages of venereal infections. During the course of Baby Week an endeavour will be made to inform every man and woman by demonstration, by lecture, by picture and by pamphlet how the preventible maladies of infancy can be avoided and what organized effort is capable of achieving in the nurture of healthy youngsters. The moral aspect of the subject will be attacked, as well as the physical, for the two overlap. If women recognized that it is morally inexcusable to feed a baby artificially, save under exceptional circumstances, there would be an enormous saving of tears at the grave-side. If men recognized that there is no greater crime than that of infecting a healthy young woman and her unborn babe, the misery of the world would be halved. Baby Week will be successful in proportion to the amount of aid the expert medical profession is prepared to lend to it. The lay organizers can do much that doctors cannot do. The enthusiastic citizen has it in his power to render the campaign of permanent value to the race by placing the necessary funds at the disposal of the executive. But all these efforts and the largest sum

of money will effect but little, if the medical profession is unwilling to give the mothers the benefit of their knowledge and experience. Infant care and pre-natal management require a profound knowledge of the physiology of the maternal and infant organisms and of the pathology of the diseases which affect the mother and her baby. The opportunity is given to the medical profession to take an energetic step in the direction of preventing disease, suffering and death. It should not be allowed to pass unused.

ACCESSORY FOOD FACTORS.

During the early years of the present century the foundations were laid of the doctrine that growth and health could not be maintained solely on the four recognized groups of chemical substances—proteins, fats, carbo-hydrates and salts. It has long been known that in scurvy the symptoms could be removed by the addition to the diet of certain fresh fruits or vegetables. No one, however, had suggested that this disease was caused by the absence from the diet of a particular constituent, probably because no one had been able to imagine a chemical constituent of an entirely unexplored nature. The close study of beri-beri revealed that this condition arose when a monotonous diet of a cereal, such as rice, was taken, provided that the rice had been milled by machinery. Funk, in endeavouring to establish the chemical nature of the missing element, introduced the term vitamines, because he conceived that these substances were essential to life. It was found that the amount of the food containing vitamines necessary to restore health in pigeons suffering from experimental peripheral neuritis was so minute that a totally new proposition was needed to explain the development of the so-called deficiency diseases. An animal deprived of one or other of the four primary substances of diet, dies of starvation, unless the loss of calories in the diet is covered by an increase in another direction. Starvation is undoubtedly a deficiency condition, but its manifestations are those corresponding to the insufficient supply of fuel to the animal furnace. When the caloric value of the protein, carbo-hydrate and fat ingested as food is insufficient to cover the needs of the body, the deficiency is made up by the utilization of the body proteins, carbo-hydrates and fats until the store is exhausted. It was apparent that in scurvy and beri-beri pathological changes occurred, notwithstanding the fact that the amount of the substances essential for the production of body heat was ample. Pathologists thus found themselves faced with a new problem. Depriving the animal of some unknown constituents of the food led to disturbances of health. Like all other new conceptions and theories, the possibility of a deficiency disease in this sense was at first warmly contested. Evidence has been accumulated during the past few years, until it has become recognized that vitamines are real and not imaginary constituents of food and that their continued absence eventually leads to a deficiency disease.

The Medical Research Committee, together with the Lister Institute of Preventive Medicine, have appointed a special committee to consider and advise upon the best means for advancing and co-ordinating the various lines of inquiry into the modes of action of the factors in metabolism which are independent of the provision of energy. The members of this committee are Professor F. Gowland Hopkins, F.R.S., Professor Arthur Harden, F.R.S., Dr. E. Mellanby, Dr. Drummond and Dr. Harriette Chick. The committee has issued a report summarizing the knowledge possessed at present concerning the accessory food factors.¹ This report deals with the historical development of the subject. The authors naturally present the views with which they have become identified in considerable prominence. In certain chapters they reveal a tendency toward dogmatism. The report is extremely valuable, notwithstanding this attitude of enthusiasm for a fascinating subject, and its defects may even be of advantage in stimulating fresh investigation and renewed discussion. It is proposed to postpone for the present a consideration of the application of the knowledge gained experimentally of the special instances of disease in human beings. Some of the evidence offered in this respect demands very detailed discussion.

The authors first attack the problem of the association of vitamines, or, as Professor Gowland Hopkins prefers to call them, accessory food factors, and growth. They recall the writings of Lunin in 1881. Lunin made the suggestion that there must be something else in milk besides caseinogen, fat, lactose and salts necessary for the growth of young mice. Many observers have endeavoured to construct a diet of purified protein, carbo-hydrate, fat and salts, to ascertain whether some other constituent was necessary for growth and continued existence. These experiments are examined critically by the members of the committee and objection is raised to those experiments in which an animal was ostensibly able to preserve complete health on a purified diet. The balance of evidence is without doubt in favour of the view that some accessory food factor is necessary. Hopkins fed young rats on caseinogen, starch, cane sugar, lard and inorganic salts. The rats lived and grew to some extent when crude material was employed, but when the ingredients of the diet were purified chemically, they declined and died. The rats that died, were consuming an ample quantity of food to support life. When to this artificial diet was added milk, representing but 4% of the weight of the solid portion of the diet, growth took place normally. Extracts of milk, devoid of protein and salts, and yeast also sufficed to sustain life and growth. He held that the substance supplied in the milk, yeast and other ingredients of natural food must be of the nature of an organic complex which the animal body could not synthesize. McCollum and Davis found that when rats were given an artificial diet consisting of purified protein, fat, carbo-hydrate and salt and had ceased to grow, the missing factor could be supplied in the ether-soluble fraction of butter or eggs. The ether-soluble fraction of lard and of olive oil proved incapable of

¹ Report on the Present State of Knowledge Concerning Accessory Food Factors (Vitamines). Compiled by a Committee appointed jointly by the Lister Institute and Medical Research Committee. Special Report Series, No. 38, 1919.

supplementing the diet. It was further found that this accessory food factor was present in cod liver oil and beef fat in relatively high concentration and that it was absent in fats of vegetable origin.

Funk and Macallum, in the course of their studies on the nature of avian beri-beri, were able to show that this disease could be prevented by the addition of yeast to a diet of polished rice. Other investigators discovered that the deficient substance was soluble in water. The terminology of fat-soluble A and water-soluble B vitamines has been accepted by almost all workers. In the further work carried out in this connexion, rats and mice were largely employed. Neither of these animals is susceptible to scurvy. The authors suggest that the smallest traces of the anti-scorbutic substance suffices to inhibit the development of this disease in rats and mice. It was then shown that a diet consisting of purified starch, crystalline inorganic salts, butter fats supplying both the necessary fat and the fat-soluble A vitamine and yeast sufficed in all cases to support growth and nutrition in rats and mice. The substitution of lard for the butter resulted in continuation of growth for a short time, followed by a period of loss of weight. The animal became liable to bacterial infections and xerophthalmia frequently appeared. Older animals were found to tolerate the deficiency for many months, but sooner or later they became profoundly affected, their resistance was lowered and they died much emaciated. The explanation offered for the period of continued growth and well-being is that the animal is relying on its stored-up vitamine. When the diet is rendered deficient in water-soluble B vitamine, the effect is produced much more rapidly. Apparently this food factor is not held in reserve in the same quantities as the fat-soluble factor. When both factors are withheld, the effect of deprivation of water-soluble B is manifested early. In all cases the addition of the accessory factor or factors is followed by an immediate recovery of health, re-establishment of growth and removal of symptoms.

The authors hold that the fat-soluble accessory factor is synthesized by plants. It is found in green leaves and in the embryos of many seeds. It is probably present in seeds in a loose type of combination with some cell constituent other than fat. This combination appears to be easily broken up by treatment with alcohol. It further seems that this factor is usually stored in the body. Although it has not been proved, it is assumed that it is held in the body in the reserve fat. The fact that it is stored is of practical importance, since the reserve stock is available during pregnancy and lactation. It has been shown that the water-soluble factor is also derived primarily from the vegetable kingdom. It is said to exist in a free condition in the plant cell. A very considerable amount of research has been conducted in regard to the distribution of the two accessory food factors. As far as is known, butter and egg yolk are the richest sources of the fat-soluble A substance. In addition to cod liver oil and shark liver oil, it is present in beef fat, fat of kidneys, heart muscle and liver, in herring oil, in cold oil, salmon oil and whale oil. The oils of vegetable origin, including sunflower

seed oil, cotton seed oil, olive oil and linseed oil contain little of this substance. Lard, too, is deficient in it. The authors have come to the conclusion that its presence in animal fats is due to the ingestion of green leaves and embryos of seed.

Fat-soluble A vitamine is soluble in ether, ligroin, alcohol and other fat solvents. It cannot be extracted by these solvents from green leaves. It is probably not as stable as was supposed until recently. Heating to 100° C. for four hours suffices to deprive butter fat of its vitamine properties. It is destroyed during the process of the hardening of oil by the action of hydrogen. Alkali apparently does not affect this fraction at room temperature. This substance has not yet been isolated, nor has any evidence been offered as to its chemical constitution.

The evidence on which the statements given above has been based has been examined critically by numerous bio-chemists and physiologists. Some endeavour has been made to oppose the deductions, but in the main they may be taken to represent proven facts. Much still remains to be learned of the fat-soluble factor. The significance of the antineuritic vitamine and its relation to water-soluble B substance and the part played by the antiscorbutic substance will be dealt with in a subsequent article.

BRONCHO-SPIROCHÆTOSIS.

In 1905 A. Castellani described a form of bronchitis which was caused by a spirochæte, *Sp. bronchialis*. This affection was found to be relatively common in Ceylon. Subsequently Castellani found the same spirochæte producing bronchitis in persons in the Balkans. According to Sir James Cantlie, this spirochæte was first found in the sputum of two patients in North Formosa in 1880. The patients were suffering from an obscure pulmonary condition. The parasite was recognized in tropical countries from time to time from 1880 until Castellani again directed the attention of the medical world to it. Castellani's observation is now bearing fruit. Major W. Broughton-Alcock reports a case of broncho-spirochetosis in an Englishman.¹ Some cases have been reported from France and Switzerland. Sir James Cantlie points out that these findings demonstrate that Castellani's bronchitis is not, as was formerly supposed, a tropical disease. It may, indeed, be a disease widely distributed over all parts of the world. The physical signs in Major Broughton-Alcock's patients were strongly suggestive of pulmonary tuberculosis. There was impaired resonance at the apex of the left lung; a few fine crepitations were heard above the left clavicle and a few coarse crepitations were heard below it. In the skiagram an opacity was detected at the inner side of the left lung. The patient was very thin and his chest was badly developed. He had suffered from pneumonia at the age of 16 and for several years had had a winter cough. The pharyngeal mucus contained some pus cells, some epithelial cells and a few spirochætes. The sputum contained numerous spiro-

¹ *Journal of Tropical Medicine and Hygiene*, December 1, 1919.

chætes. The films were stained by Fontana's method and the spirochaetes were identified as *Spirocheta bronchialis*. Further investigation led to the exclusion of tuberculosis. The patient recovered after a short time, as do the majority of those suffering from this affection. It appears that relapses are at times experienced. The detection of this form of bronchitis or peri-bronchitis in England, in France, in Switzerland, in the Balkans and elsewhere is an indication to medical practitioners to bear the spirochaetosis in mind. There are many diseases which were thought to be rare soon after their first recognition, but which have subsequently proved to be common. Perhaps Castellani's bronchitis may be found to be, when it is looked for, not infrequent in Australia. In any event, films of sputum in cases of bronchitis or peri-bronchitis should be stained by Fontana's or Leishman's method, when tubercle bacilli cannot be found.

MALARIA AND ENTERIC FEVER.

Clinicians have for many years paid special attention to the coincidence of two or more infective processes in one patient. It is recognized that a patient may acquire an infection of one kind either simultaneously with an infection of another kind or during the course of an independent infection. In some instances the clinical picture is modified by the second infection, according to its severity, and the prognosis becomes unmistakably worse. The most common form of coincident infections of this kind is a double infection of diphtheria and scarlatina. In the association of morbilli and diphtheria the prognosis is altered more profoundly than when the latter disease is associated with scarlatina. The supervention of an acute infection on a chronic infective process like tuberculosis forms another category of coincident infection. As a rule, the course of the acute infection is modified only when the organism has been undermined by a prolonged or severe chronic infection. In other respects the former runs its usual course. There is some evidence indicating that the course of the acute infection may be altered when the lesions have similar local distribution in both acute and chronic affections. Thus it seems as if a chronic pulmonary tuberculosis were adversely affected by an attack of influenza with pulmonary complications. Similarly, it is well known that lobar pneumonia is a more serious condition in a consumptive than in a person with intact lungs. Closely connected with this question of the influence of a second infection on the patient is that of symbiotic infection, the modification of an infection by the association of a second bacterium, which need not be pathogenic by itself. The subject of symbiosis of bacteria has been studied in the culture tube more closely than in the human organism. At present very little is known concerning the alterations in the biological reactions of a pathogenic organism in the human body in the presence of a second organism which stands in symbiotic relationship with the infecting organism.

The tendency of the older physicians was to accept a definite third disease when the causal agents of two diseases were associated in one patient. Years ago an endeavour was made to establish a condition under the name of typho-malaria. At present few, if any, clinicians admit that when enteric fever is associated with malaria in one patient, a distinct clinical picture is produced. On the other hand, practitioners with experience of tropical diseases have frequently noted a curious influence of a malarial infection on persons suffering from enteric fever. Sir Almroth Wright has recently brushed aside the suggestion that anti-typhoid inoculations render persons less susceptible to malaria. Notwithstanding this view, it is quite conceivable that the typhoid antibodies may exert a bio-chemical influence on the human organism or on the plasmodium which might change the person's reaction to the plasmodium. Dr. H. H. Scott, the Government Bacteriologist at Jamaica, has published data which have some bearing on this matter.¹ He has observed numerous cases of illness diagnosed as enteric fever on the Widal reaction, on the recovery of the *Bacillus typhosus* and on the fact that the fever was uninfluenced by quinine, in patients who were suffering from malaria. In many of these cases he adduces evidence of a highly convincing nature in favour of the acute febrile disturbance being enteric fever. The course in the majority of these infections is mild, milder than is the course of uncomplicated enteric fever in Jamaica. Moreover, he finds sufficient support to presume that the malarial infection is beneficially influenced by the association with enteric fever. He has observed patients in whom the enteric infection grafted on a profound and severe infection with *Plasmodium falciparum* resulted in an illness so mild and little evident that the patients chafed at being kept in hospital for longer than a fortnight. The only rational deduction from this observation is that the presence of malarial parasites in the blood appears to exert a mitigating effect on the course of an enteric infection. The majority of the patients with coincident enteric fever and malaria recovered after an illness which was not typical either of the one or of the other disease. This is the more striking in view of the fact that in Jamaica both diseases are notoriously severe. He meets the possible criticism that the diagnosis of enteric fever was unjustified by demonstrating that in uncomplicated malaria the Widal test is negative. The presence of typhoid bacilli might be explained on the assumption that the patients were carriers. This assumption, however, is untenable in view of the fact that in the course of the atypical pyrexial attack, the agglutinin reaction became progressively stronger. The records of the cases are strongly suggestive of an unexplained interaction between the two infections. This association should be more closely studied.

Dr. Cedric Murray Samson has been appointed a Field Medical Officer in the Australian Hookworm Campaign.

Under the provisions of the *Workers' Compensation Act, 1915*, Major-General Sir Charles Ryan, M.B., Ch.M., has been appointed Certifying Medical Practitioner at Melbourne.

¹ *Annals of Tropical Medicine and Parasitology*, December 10, 1919.

Abstracts from Current Medical Literature.

PATHOLOGY.

(73) Cerebro-Spinal Fluid in Acute Disease.

W. W. Herrick and A. M. Dannenberg published in the *Journal of the American Medical Association* (November 1, 1919) the results of their examination of the cerebro-spinal fluid in a large and varied group of acute diseases. They consider that there is no question that the meningeal-choroidal complex shares in the systemic reaction to the toxins or the infective agents of a very considerable number of acute diseases, and that the cerebro-spinal fluid of meningismus is not always or even usually normal. Of no slight clinical moment is the comparative permeability of the meningeal-choroidal complex to various infective agents and their toxins. Of the accepted pathogenic organisms, the meningococcus finds easiest access to the sub-arachnoid system. In their experience this penetration took place in about 95% of cases of meningococcus septicæmia. It would seem that the pneumococcus and its toxins have an even stronger affinity for the meninges than ordinary clinical experience would suggest. The tubercle bacillus and *Spirochæta pallida* also pass the meningeal-choroidal barrier without difficulty, less readily do *B. typhosus*, the influenza bacillus and the gonococcus or their toxins gain an entrance. Other pyogenic organisms than those mentioned, notably the streptococcus and staphylococcus, rarely penetrate the sub-arachnoid system except by direct extension from some focus of suppuration immediately adjacent to the meninges. Of the more doubtful aetiological agents of infection, that of poliomyelitis penetrates the structures in question with the high facility. The virus or toxins of scarlet fever, measles, parotitis, variola, and epidemic influenza may give rise to reaction within the sub-arachnoid space. That some of these viruses are filterable is perhaps not without significance. The greatest caution should be used in making a diagnosis of meningitis or poliomyelitis from fever meningism and from the presence of a slight or moderate increase in cells or globulin in the cerebro-spinal fluid. Cases with less than 100 cells should be viewed with scepticism unless clinical, epidemiological or other laboratory evidence is decisive. After an experience with some 5,000 lumbar punctures in a large military medical centre in all sorts of medical conditions they were not impressed with its clinical dangers.

(74) Path of Spread of Bacterial Exotoxins.

In the *Journal of Pathology and Bacteriology* (October, 1919) F. H. Teale and Dennis Embleton record the results of their experiments, which show

that although tetanus toxin ascends to the central nervous system by way of the axis cylinders of the nerves, it also to a very great extent passes up the nerves by way of the perineurial lymphatics. Blocking of the latter paths greatly delays and in some cases completely prevents the occurrence of tetanus in the part corresponding to the nerve whose lymph path has been blocked. Although tetanus toxin passes rapidly from the blood vessels into the connective tissue spaces and thence to the thoracic duct, the toxin does not pass from the capillaries of the central nervous system to the tissues thereof. Tetanus toxin does not pass from the choroidal plexus to the cerebro-spinal fluid. Although bacteria can pass through the posterior root ganglia to the cord, colloidal pigments and tetanus toxin are prevented from doing so. Iodine, although it prevents tetanus toxins from producing its characteristic effects when iodized toxin is inoculated subcutaneously or intravenously, does not affect the toxin when inoculated intracerebrally; it does not hinder the occurrence of the typical symptoms of cerebral tetanus. There is no apparent diminution in its toxicity. Since iodized toxin is used for the production of tetanus antitoxin and since direct intracerebral inoculation of the iodized toxin produces typical cerebral tetanus and has no effect when inoculated subcutaneously, the antitoxin must be produced by tissues other than the central nervous system. Tetanus antitoxin does not pass to the central nervous system either by way of the blood vessels, axis cylinders or neural lymphatic channels. It cannot pass from the cerebro-spinal fluid when inoculated intrathecally into the substance of the cord. The antitoxin simply acts by combining with the circulating toxin at the seat of production. It prevents the toxin from reaching the central nervous system. The toxin already in this position is unaffected.

(75) The Bio-Chemical Comparison of Micro-Organisms.

In the *Journal of Pathology and Bacteriology* (October, 1919) John Edmund Guy Harris makes a comparison of two anaerobes, *B. sporogenes* (Metchnikoff) and the Reading bacillus, which morphologically and in cultural reactions are closely related. The experimental work on which the comparison is based consists of: (a) an investigation of the proteolytic and sugar-splitting properties of the organisms in a series of parallel fermentations on different media; (b) a determination of the oxygen concentrations which permit or inhibit growth of these organisms. The comparison is made strictly from quantitative data. In carrying out the fermentation experiments, in order that results should be strictly comparable, each organism was made to ferment the same medium under exactly similar conditions. As a preliminary measure steps were taken to obtain seed cultures of each organism that were, as

nearly as possible, in the same state. For each fermentation determinations of the following were made: (i.) volume and composition of gas produced; (ii.) formation of ammonia; (iii.) formation of amino-acid nitrogen; (iv.) production of volatile acids; (v.) change in the hydrogen ion concentration; (vi.) change in the sugar content. By employing the method of determining the degree of oxygen tolerance (for growth) of an organism and its expression as the "aerobic index," the author aims at determining approximately the limits of oxygen concentration in which an organism will grow. The method consists in inoculating a number of tubes of medium with the organism in question, removing the air from the tubes by means of a pump and replacing it by oxygen at definite pressures. The limits within which growth takes place are expressed as the "aerobic index." From the experimental results it is concluded that these two organisms are of the same race, but show small differences possibly acquired. In their bio-chemical behaviour towards the five media used they are remarkably similar, but they show a somewhat striking difference in their powers of growing in the presence of oxygen. The Reading bacillus behaves as a strict anaerobic, whereas *B. sporogenes* can tolerate quite large amounts of oxygen, nearly up to saturation value at atmospheric pressure.

(76) Pfeiffer's Bacillus in Measles.

A. W. Sellards and E. Sturm have investigated a series of patients suffering from measles, with a view to the determination of the frequency of association between *Bacillus influenzae* of Pfeiffer and this disease (*Johns Hopkins Hosp. Bulletin*, November, 1919). An organism indistinguishable from Pfeiffer's bacillus was recovered from the sputum of 19 out of 25 measles patients during the eruptive stage, of six between 10 and 14 days after the eruption and of six between 20 and 25 days after the eruption. The same organism was recovered from the conjunctiva. It was not found in the blood, nor in the skin lesions. On the other hand, an organism having many of the characters of Pfeiffer's bacillus was grown from an inguinal lymphatic gland. The authors record their investigations into the characters of these bacilli. The effect of freezing, drying, of bile, of sodium hydroxide on the growth and the results of inoculation are discussed. They point out that organisms indistinguishable from Pfeiffer's bacilli exhibit varying behaviour. They suggest that, just as the typhoid-colon group of organisms contains essentially distinct types, so the organism of Pfeiffer may represent a group of many different pathogenic organisms. In the absence of means to distinguish the individual species of the group, it is impossible to produce evidence either for or against an aetiological relationship with either measles or influenza.

PEDIATRICS.

(77) Serum Treatment of Lobar Pneumonia.

The successful treatment of lobar pneumonia with a serum depends on several factors. There must be available a serum rich in antibodies, for the specific race of pneumococcus exciting the lesions, and this serum must be able to reach the organisms in time and in sufficient concentration to prevent them from harmful development. The bacteriology of lobar pneumonia differs considerably, from that of broncho-pneumonia. W. H. Park (*Bull. of Department of Health*, New York, April, 1919) reports that, before the pandemic of 1918, the clinical signs that determined the presence of lobar pneumonia practically determined the dominant causal organism. In bronchopneumonia streptococci, influenza bacilli and other forms of bacteria were found to be dominant in 50% of the cases. Since the pandemic, even in typically clear cases of lobar pneumonia, influenza bacilli and streptococci were often associated with the pneumococci. Late studies have shown that there may be hundreds of strains of these pneumococci, each one responding to different antibodies, and that, while some of these, on injection into suitable animals, excite abundant antibodies, others do not. It has been shown that in the United States about 75% of all lobar pneumonia cases are caused by pneumococci of three distinct types, the remaining 25% consisting of a multitude of different strains. In other countries, various strains have been shown to be dominant, and the dominant strain may vary from year to year or with each epidemic. Park regards this as an indication of the necessity for determining the causal type of organism before proceeding to inject a stock serum. After injection in horses, the organisms of Type I. produce abundant antibodies. Type II. produce about 10% of the quantity produced by Type I. and Type III. still less. In administering serum, experiment favours the large doses given intravenously of serum, diluted with an equal quantity of sterile saline solution. The average dose of a standard serum for an adult should be 100 c.c.m., repeated every twelve hours, or every six or eight hours if a precipitable specific substance be detected in the urine. From 200 to 500 c.c.m. may be needed in the treatment of one patient. The injection should be repeated, especially if there is a recurrence of fever after a fall subsequent to the administration of the serum. The especial danger following an injection is a sudden anaphylactic reaction, with a possible fatal result. To prevent this a small subcutaneous injection is given an hour or two before the intravenous injection and repeated, if there is marked local reaction. Slow administration is better than rapid. The serum should be warm. Serum sickness will usually follow from six to fourteen days after administration. In Type I. infections about 30% of the cases show an almost immediate, more or less

severe rigor, with a considerable rise of temperature, lasting for a short period. This occurs usually after the first, but occasionally after the later injections. Pneumococci disappear from the blood within twelve hours of the injection. The temperature usually falls rapidly after the initial rise to a point lower than before the rise and the symptoms, as a rule, improve sooner than the average untreated case of equal severity. Serum sickness, with rashes, painful joints, swelling of lymphatic glands and other symptoms occur in about 50% of the cases during convalescence. The mortality has been considerably less in the treated Type I. case than in the untreated.

(78) Foreign Bodies in the Air and Food Passages.

In an address before the American Pediatric Society (*Arch. of Pediatrics*, June, 1919, Society Report) Grahame relates his observations on a comparatively large number of cases of foreign bodies in the air passages and a smaller number of cases of foreign bodies in the food passages. His conclusions are as follows: (1) It is reasonable to suppose that foreign bodies in the air and food passages in children are much more common than is supposed. Statistics tend to show that about 66% of the cases of foreign bodies in the air passages occur in children. (2) The period of latency of symptoms which follow the violent dyspnoea and choking attack and later the gradual onset and chronic character of the symptoms, may lead to failure in suspecting the presence of a foreign body. (3) Foreign bodies are certainly often overlooked, as a study of the histories of many of the cases clearly shows. (4) The symptoms vary greatly. A peanut kernel set up immediately a severe laryngitis, tracheitis and bronchitis. In the pea-nut cases the older child might survive the acute symptoms, but most surely would develop pneumonia. (5) Metal objects may remain in the lung for a very long time and do comparatively little damage. (6) There are some foreign bodies that do not cast a shadow on the X-ray plate. (7) The location of a foreign body in the oesophagus that does not cast a shadow on the X-ray plate, may be diagnosed by allowing the patient to swallow a bismuth filled capsule. The skiagram shows the location of the bismuth capsule held in position in the oesophagus by the foreign body. (8) The patient should not be urged to cough, with the hope of expelling the foreign body inhaled into the lungs. (9) Foreign bodies are rarely coughed up. (10) The physical signs and symptoms vary according to the composition, form, shape and size of the foreign body. (11) A foreign body should be suspected if the following conditions are present: an unexplained leucocytosis, localized symptoms in one lung that do not clear up under treatment, no tubercle bacilli in the sputum and a gradual failure in weight and strength. (12)

There are no contra-indications to bronchoscopy except, perhaps, weakness in the patient, when time should be given the individual to rally in part. (13) Bronchoscopy should be performed as soon as possible after the entrance of the foreign body. (14) Children do not require the administration of an anaesthetic for the performance of bronchoscopy. (15) The necessity of taking a skiagram in every case of a child supposed to have swallowed a foreign body cannot be too strongly emphasized. (16) An asthmoid wheeze is a symptom of considerable importance.

(79) Thick Cereal Feedings in Malnutrition.

Following on a report on the value of thick cereal feedings in pyloric stenosis and pylorospasm, it occurred to H. R. Mixsell (*Arch. of Pediatrics*, August, 1919) to try thick farina feedings in cases of marasmus and in cases which failed to gain in weight whatever the treatment. Twelve infants from one to six months were selected. All had been under prolonged and varied treatment. Nearly all had been fed on diets rich in sugar, some on diets rich in fat, some on high sugar proprietary foods, others on various formulae and all had failed to gain or had gained but very little since birth. In all assimilation was presumably good; they took their food, digested it perfectly, but would not gain. The stock formula for the food was about one tablespoon of farina to 210 c.c.m. of a 1% milk. About 3% cane sugar was added to make the food more palatable. Later dextri-maltose was added and the whole was cooked together for at least thirty minutes, or until the cereal was so tenacious and thick that it would barely fall off an inverted spoon. If not cooked enough, diarrhea might set in, owing to the high starch content. This actually occurred in two cases and the diarrhea ceased after the food had been more thoroughly cooked. In four cases rice flour was used. This has the advantage of being more soluble and has better protected colloids than farina. In every case there was a decided change for the better physically and a decided gain in weight. There is no fixed rule as to the length of time that a child can be kept on thick cereals. One child was treated for eight months with success, but, naturally, other articles of diet, such as fruit juices and green vegetables, were also employed. In the majority of cases it seemed best to change back to a milk formula at the end of about two months, dry milk being used. The change seemed to have no ill-effect. To supply the water deficiency, water in amounts up to 180 c.c.m. was given three times a day. In two cases, however, no water whatsoever was given, even in the hot weather, and the urine in these cases was found to be normal and there was no loss of weight or oedema, or evidence of water retention. No disturbance of sugar or starch metabolism appeared and the gain in weight was marked.

Medical Societies.

THE OPHTHALMOLOGICAL SOCIETY OF NEW SOUTH WALES.

A meeting of the Ophthalmological Society of New South Wales was held in the Sydney Hospital on November 5, 1919, Dr. Gordon MacLeod, the President, in the chair.

Dr. Gordon MacLeod reported a case of epithelioma of the conjunctiva. D.M., aged 84, applied nearly two years ago for treatment of a cataract in his right eye. On examination a spongy raised mass was found on the globe. It was roughly quadrilateral in shape, its lower border occupying about a quarter of the whole circumference of the limbus on its upper and outer aspect. It was movable over the sclera. The diagnosis was made of epithelioma, and the mass was dissected cleanly off the surface of the globe, no deep adhesions to the sclera being present. The bared surface was covered with a conjunctival flap. The pathologist reported that the growth was an epithelioma. While waiting for the cataract extraction the patient developed acute glaucoma, for which an iridectomy was done with good result. Later the cataract was extracted. He had obtained useful vision with correction, the tension was normal and there had been no recurrence of the epithelioma.

Dr. E. Temple Smith showed a modification of an eye-speculum by Lister, new pattern eye-lid retractors by Hudson and the Hare-Marple electric ophthalmoscope, which was similar to the Marple-Morton model, but was somewhat simpler and more compact. He also showed Young's album for the demonstration of light differences and light minimum.

Dr. Temple Smith also showed a mounted specimen of a flat sarcoma of the choroid, and read the following notes of the case:—

Mrs. E., aged 56, was seen on August 6, 1919, complaining of rather sudden loss of sight in the left eye. The right vision was $\frac{1}{4}$, with correction; the eye was normal. There was only perception of light on the left side. The vitreous was full of serous effusion. The fundus could not be seen. The tension was normal. Rest and potassium iodide were prescribed. Four weeks later the vision had improved to $\frac{1}{12}$ and no gross lesion was detected in the fundus. The tension was normal. On September 12, nine days later, the vision had fallen to counting fingers; the media were clear and the tension was normal. A small, flat detachment of the retina was then seen at the outer side of the retina. The surface was not iridescent and scintillating, but mottled like a brown trout. There was some questionable dullness on transillumination over a very circumscribed area. After a further fortnight, the tension remaining normal and as there was definite dullness still over a very small area, the eye was enucleated. The pathologist reported a melanotic sarcoma.

The points of interest in the case were:—

(i.) The early diagnosis. This was possible only when the circulation in the choroid was so far disturbed by the growth as to cause a serous effusion beneath the retina, leading to its detachment. (ii.) The peculiar appearance of the disturbed retina to the ophthalmoscope; and (iii.) the value of transillumination in these cases. Dr. Temple Smith doubted if the removal of the eye would have been justified at so early a stage except for the positive result of this diagnostic measure. The best transilluminator was made by slipping a piece of india-rubber tubing over the end of the electric ophthalmoscope. After cocaine had been applied to the eye, a very satisfactory examination could be made.

Speaking of the time which sarcomas took to develop, Dr. S. H. Hughes related a case of a small growth of the fundus, which was diagnosed as sarcoma. He had advised the man to have his eye removed. The patient also saw the late Dr. Maher, who agreed with the advice. The man returned four years later with a growth filling the interior of the eye, but it had not broken through the sclera.

Dr. Guy Antill Pockley gave the details of an operation on a traumatic cataract of 49 years' standing, with the restoration of good vision. A.B., *et al.* 62, was seen in May, 1919, when the right eye was blind, with deeply cupped disc and raised tension. There was no perception of light. He gave a history that 48 years previously, when fencing, he had been struck

on the left eye with a single-stick, after which he could see nothing with that eye. A year before he had bumped into a lamp post and suffered concussion. The following morning he could see a little, chiefly coloured lights and large moving objects "out of one corner." The condition of left eye when he was seen was tension + 2; the pupil was dilated but sluggishly active. The lens was opaque and dislocated backwards and outwards. Projection was fair. It was explained to the patient that the prognosis was very bad, but that immediate operative interference might be of some use. In May posterior scleral puncture was performed followed by scoop extraction; a tag of iris was left in the wound, with the result that six weeks later, with a + 3-5 sphere and a + 8 cylinder, the left vision was $\frac{1}{12}$. Vision has improved. It had reached full $\frac{1}{4}$, with a + 3-5 sphere and + 7 cylinder. The case had been reported to illustrate how an eye that one would expect to be amblyopic, could recover and as an example of good result in a case of dislocated lens with increased tension, when post-scleral puncture had previously been performed. The result was much more satisfactory than that obtained in cases in which the lens had been extracted with the scoop without the preliminary puncture.

Dr. Cyril Shepherd showed a case which he had seen that afternoon and which he diagnosed provisionally as epithelioma of the eye. It was reported that the man had an epithelioma of the lip; it was doubtful whether it was a case of two primary growths occurring at the same time.

Dr. Gordon MacLeod showed a case of trephining for glaucoma, with a conjunctival flap implanted on the cornea. In introducing the case Dr. MacLeod said that he had intended at a later stage to make some remarks on the matter of the conjunctival flap in trephining, but as he had the opportunity of demonstrating the patient he would say a few words on the point. Since he had last mentioned the matter at a meeting of the Society, it might be said that his experience of the advantages of the method then referred to had been such that he now adopted it in every case where he considered trephining indicated. The essential aim at in the operation was to cover the trephine hole with a substantial conjunctival flap brought over it, union of the flap to the cornea being established well forward of the trephine hole.

The procedure was as follows: Cocaine was instilled and a sub-conjunctival injection of cocaine and adrenalin was given at the site of operation. A zone of cornea concentric with the proposed site of the trephine hole was then mapped out and denuded of its superficial layers. This zone was from 2 to 3 mm. in breadth, but a small area at the actual trephining site was left untouched, so that the trephine hole was immediately surrounded by a zone of intact cornea of about 1 mm. wide. For the denudation of the cornea a Graefe knife or a small, sharp scalpel with a convex edge was employed. The conjunctiva was then separated at the limbus with a Graefe knife. This should be done cleanly, so that the conjunctival flap might carry its full available thickness up to its edge with as little beveling as possible. The length of the incision was approximately one third of the circumference of the limbus. The conjunctiva was then undermined upwards with scissors. As the flap retracted upwards, the trephining site was fully exposed. Two silk sutures, each bearing two half-curved needles, were inserted at this stage. The upper needle of each pair was inserted through the flap from its under surface at least 2 mm. from the edge of the flap, so that stitches would not cut through. The lower needles were made to burrow under the conjunctiva close to the corneal margin, to obtain a secure conjunctival hold and then to emerge slightly below the level of the horizontal meridian of the cornea. At this stage it was wise to pull the flap temporarily into position to make sure that the placing of the stitches was satisfactory. It was a point of the utmost importance that the insertions in the flap should be sufficiently near to each other to maintain the necessary tautness of the flap and to hold it in close apposition to the corneal surface when the sutures were tied. The approximate distance between them should be 7 mm.

Two additional sutures to keep the extreme edge of the flap more flatly on the cornea and to prevent it inverting were then inserted. As the strain was borne by the first pair of stitches, these last were inserted quite close to the cut edges. Trephining was then done and when this stage was carried out, the operation was completed by drawing

the flap into position, tying the sutures with the exact degree of tightness and cutting short their ends.

It was an advantage to have all the arrangement of the sutures complete before trephining, as the patient was usually much less tolerant of any manipulation after this than before. Both eyes should be bandaged for a week, during which time the sound eye was kept under the influence of a miotic. The operation eye was dressed twice daily, *gutta argyrol*, 15% solution, being instilled after each dressing. At the end of a week the stitches could usually be removed.

Dr. R. H. Jones and Dr. Shepherd expressed their satisfaction with the result in several cases of Dr. MacLeod's which they had seen.

Dr. E. Temple Smith stated that he was very much impressed by the description of the operation and said that he would certainly try it at the first opportunity.

Dr. R. H. Jones asked if anyone present had had a case of late infection; he had had one case.

Dr. Temple Smith stated that he had a case in which recovery fortunately ensued.

Dr. Blaxland said that he had seen several cases of trephining at the recent Congress in Melbourne, some of them dating back seven years; and, although the covering over the trephine hole was thin, there had been no late infection. He also mentioned that the trephine hole was about 3 mm. in diameter.

Dr. Temple Smith related experiences on active service (see *The Medical Journal of Australia*, January 10, 1920, p. 31), and the President, on behalf of members of the Society, welcomed him back.

The undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:—

Cecil Bluett, Esq., M.R.C.S., Eng., 1919; L.R.C.P., Lond., 1919; L.M.S.S.A., Lond., 1914; Alstonville, Richmond River.

George Middleton, Esq., M.B., 1919 (Univ. Sydney), Sydney Hospital.

Thomas Sacheverell Greenaway, Esq., M.R.C.S., Eng., L.R.C.P., Lond., 1916, Union Bank of Australia, Melbourne.

The undermentioned have been elected members of the New South Wales Branch of the British Medical Association: John Cappie Shand, Esq., M.B., Ch.M., 1918 (Univ. Sydney), Walgett.

J. J. Campbell Lamrock, Esq., M.B., Ch.M., 1916 (Univ. Sydney), Bellevue Hill, Edgecliff.

Herbert Odillo Maher, Esq., M.B., Ch.M., 1915 (Univ. Sydney), c/o Perpetual Trustee Co., Ltd., Hunter Street, Sydney.

Robert Maxwell McMaster, Esq., M.B., Ch.M., 1915 (Univ. Sydney), Goulburn.

Roy B. Trindall, Esq., M.B., Ch.M., 1915 (Univ. Sydney), 314 Marrickville Road, Marrickville.

Hugh Hunter, Esq., M.B., 1918 (Univ. Sydney), c/o Dr. J. G. Hunter, Mascot.

James Stewart, Esq., M.B., 1915 (Univ. Sydney), "Cattfoss," Randwick.

P. N. Grieve, Esq., M.B., 1915 (Univ. Sydney), Mowbray Road, Chatswood.

Naval and Military.

APPOINTMENTS.

The following announcements have appeared in the *Commonwealth of Australia Gazette*, No. 20, of February 19, 1920:

Permanent Naval Forces of the Commonwealth (Sea-Going Forces).

To be Surgeon-Lieutenant—

Temporary Surgeon-Lieutenant Jack Rupert Law Willis, R.N., permanent service; date of appointment, 11th October, 1919; seniority in rank, 22nd August, 1914.

Transfer to the Retired List—

Surgeon-Commander Alexander Ruan Caw is transferred to the Retired List, dated 21st December, 1919.

To be Temporary Surgeon-Lieutenant—

Temporary Surgeon-Lieutenant Horace Palmer Margets, O.B.E., R.N., period of appointment, six months; date of appointment, 15th January, 1920; seniority in rank, 5th February, 1915.

Australian Imperial Force.

APPOINTMENTS TERMINATED.

First Military District.

Lieutenant-Colonel E. Culpin, 10th February, 1920.
Captain C. M. Lilley, 16th January, 1920.

Second Military District.

Colonel R. J. Millard, C.M.G., C.B.E., 30th January, 1920.
Major W. F. Matthews, 28th December, 1919.
Major A. M. Langton, 30th January, 1920.
Major K. S. Parker, M.C., 23rd January, 1920.
Captain I. Aird, 15th January, 1920.
Captain W. K. W. Flook, 31st January, 1920.
Captain P. L. Daniel, 22nd January, 1920.
Captain F. W. L. Liggins, 21st December, 1919.
Captain A. C. Moran, 16th December, 1919.
Captain E. P. Holland, 5th December, 1919.
Captain G. B. Packham, 16th December, 1919.
Captain H. C. Barry, 1st December, 1919.

Third Military District.

Lieutenant-Colonel T. E. V. Hurley, C.M.G., 11th February, 1920.
Major J. W. Wilkinson, 27th January, 1920.
Captain B. D. Fethers, 5th January, 1920.
Captain H. S. Jacobs, 21st December, 1919.
Captain A. B. McCutcheon, 21st December, 1919.

Fourth Military District.

Major J. C. Mayo, 14th January, 1920.

Fifth Military District.

Colonel G. W. Barber, C.B., C.M.G., D.S.O., 1st February, 1920.
Captain W. S. Myles, 19th January, 1920.

Sixth Military District.

Major W. H. Toft, M.B.E., 19th February, 1920.

Australian Military Forces.

First Military District.

Australian Army Medical Corps Reserve—
Harold Thornton Bourne to be Honorary Captain, 1st December, 1919. Honorary Captain H. T. Bourne is granted the temporary rank and pay of Major whilst employed at No. 27 Australian Auxiliary Hospital, 1st December, 1919.

Second Military District.

Australian Army Medical Corps—

The temporary rank of Lieutenant-Colonel granted to Major J. C. Robertson is terminated, 31st December, 1919.

Captain and Honorary Major (temporary Lieutenant-Colonel) C. S. L. Macintosh, D.S.O., to relinquish the appointment of Officer Commanding No. 4 Australian General Hospital, dated 31st December, 1919, and to retain the temporary rank and pay of Lieutenant-Colonel whilst employed as Medical Officer in charge of Permanent Troops, Sydney, 1st January, 1920.

Captain (provisionally) E. A. R. Bligh to be transferred to the Australian Army Medical Corps Reserve, and to be Honorary Captain, 1st January 1920.

Captain (provisionally) R. A. Lovejoy to be granted the temporary rank and pay of Major whilst employed at No. 4 Australian General Hospital, 1st November, 1919.

Australian Army Medical Corps Reserve—

William Broad, Charles George McDonald and Campbell Roy Campling to be Honorary Captains, 29th October, 1919.

Honorary Captain A. E. J. Scott, W. Blaxland, W. Broad, C. G. McDonald and C. R. Campling to be granted the temporary rank and pay of Major whilst employed at No. 4 Australian General Hospital, 1st November, 1919.

*Third Military District.**Australian Army Medical Corps Reserve—*

David Edmund Stodart to be Honorary Major, 1st January, 1920.

Honorary Captain T. G. S. Leary to be granted the temporary rank and pay of Major whilst employed as Specialist (part time) at No. 5 Australian General Hospital, 26th November, 1919.

The resignation of Honorary Major E. E. R. Sawrey of his commission is accepted, 6th January, 1920.

*Fourth Military District.**Australian Army Medical Corps Reserve—*

Norman Robertson Bennett to be Honorary Captain, 3rd December, 1919.

The resignation of Honorary Captain H. Powell, M.C., of his commission is accepted, 31st December, 1919.

*Fifth Military District.**Australian Army Medical Corps—*

Lieutenant-Colonel (Honorary Colonel) A. T. White, C.M.G., V.D., to be transferred to the Reserve of Officers, 1st January, 1920.

Lieutenant-Colonel G. W. Barber, C.B., C.M.G., D.S.O., to be Principal Medical Officer, 5th Military District, 1st January, 1920.

Temporary Lieutenant-Colonel F. A. Hadley to be transferred to the Australian Army Medical Corps Reserve, and to be Honorary Lieutenant-Colonel, 16th January, 1920.

*Sixth Military District.**Australian Army Medical Corps—*

The resignation of Captain (Honorary Major) G. Sprott of his commission is accepted, 31st December, 1919.

University Intelligence.**THE UNIVERSITY OF SYDNEY.**

A meeting of the Senate of the University of Sydney was held on February 16, 1920, at University Chambers, Phillip Street, Sydney.

The death of Sir Edmund Barton was reported. The following resolution was passed on the motion of the Chancellor:

The Senate desires to place on record its sense of the loss sustained by the University and the community through the death of the Right Honourable Sir Edmund Barton, G.C.M.G., M.A., LL.D., D.C.L., one of the University's most distinguished graduates, who gave it the benefit of his counsels during a period of more than a quarter of a century as Fellow of the Senate. The University is also indebted to him for the honour he brought on it by his services as judge and statesman, especially by his successful exertions for the promotion of Australian unity.

It was resolved that a letter of deep sympathy be forwarded to Lady Barton.

For the vacancy on the Senate as a co-opted member, the Honourable James Ashton was elected.

The following degrees were conferred *in absentia*:

Master of Surgery: G. P. Arnold, F. J. Bridges, H. J. Clayton, E. M. Fisher, R. A. Lovejoy.

A letter received from the Department of Defence on the training of medical officers was referred to the Faculty of Medicine for report.

A letter was received from Mr. Wilberforce Cobbett, acknowledging the resolution of sympathy on the death of his brother, Professor Pitt Cobbett.

Professor Pollock reported the gift of Crooke's tubes from Major C. A. Edwards. It was resolved that a letter of thanks be forwarded to Major Edwards.

A letter was received from the Chancellor of the University of Melbourne, congratulating the University of Sydney on the McCaughey bequest.

The application of Professor Wilson for leave of absence for the year 1921 was granted.

Dr. O'Connor, of the expedition to Ellice Islands, wrote, acknowledging the kindness and help he had received from the staff of the Sydney University.

A letter from the Honourable J. M. Creed, M.L.C., offering to present medical books to the library was received. It was resolved that the offer be accepted with thanks.

The following appointments (*inter alia*) were made:

(i.) Clerk of Faculties: Mr. H. A. Wilson.

(ii.) Cataloguer: Mr. A. V. Taylor.

(iii.) Tutor in Anæsthetics: Dr. M. C. Lidwill, for one year.

A report of the Professorial Board in regard to the creation of new faculties was adopted.

THE HEALTH OF TASMANIA.

The annual report of the Assistant Health Officer, in his capacity as Acting Chief Health Officer for Tasmania, for the year 1918-1919, is dated August 7, 1919, and was distributed in December of the same year. Dr. A. H. Clarke refers to the fact that Dr. Park resigned the position of Chief Health Officer on August 31, 1918, after having filled it for sixteen months. He refers to the exceptionally fine public health work that Dr. Park carried out during his short period of office. The position has not yet been filled and Dr. Clarke was requested to undertake the work temporarily, in addition to his work as Assistant Health Officer and to that of Chief Quarantine Officer in Hobart. The staff of the Department consists of a Secretary, a non-medical bacteriologist, Mr. H. G. Beardmore, four permanent and two temporary clerks, a chief inspector and two assistant inspectors and three child-welfare nurses. The accommodation placed at the disposal of the bacteriologist is quite inadequate. Dr. Clarke expresses the hope that this defect may be remedied, to enable Mr. Beardmore to carry out his duties under less trying circumstances.

Public Health Legislation.

The *Hospitals Act, 1918*, came into operation on May 15, 1919. This Act provides for the inspection of hospitals by the Chief Health Officer and the control of persons suffering from infectious diseases by him. The Board of Management of a hospital receiving State aid may be required to enter into an agreement with a local authority for the reception of persons suffering from infectious disease. If the local authority neglects to make provision for the admission of persons suffering in this manner, the Minister may take the matter into his own hands. The local authority is responsible for the cost of institutional treatment of persons suffering from infectious diseases. It would appear, further, that the Chief Health Officer has the duties of advising the Minister concerning the licensing and management of private hospitals. Dr. Clarke does not refer to any difficulties in regard to the administration of the special clauses of this Act.

During the course of the year the *Midwives Act, 1911*, was amended. The Midwives Registration Board consists of three members, the Chief Health Officer, a nominee of the Medical Council and a nominee of the registered midwives. The Act further provides for the control of women who are not registered and who do not hold a midwives certificate. They may be required to prove that they are not attending for gain any women in child-birth, except under the direction of a qualified medical practitioner. The conditions of registration of midwives, the regulation of the course of training and the regulation and supervision of the practice of midwives are set forth in the Regulations issued under the Act.

Some amendment was also introduced into the *Venereal Diseases Act, 1917*. In the amending Act there is a list of drugs which may not be sold by a chemist, except on the order of a medical practitioner. Patients who have been ordered to place themselves under treatment, are required to notify the Department that they have fulfilled this obligation. Medical practitioners treating persons suffering from venereal disease must direct the patient's attention to the infectious character of the disease and to the legal consequences of infecting other persons. The following subsection has been added:—

Section 41 (h) (2).—If such practitioner has reason to believe that a patient who is suffering from venereal disease intends, notwithstanding such warning, to contract marriage, he shall forthwith notify such belief to the Chief Health Officer, who shall thereupon inform any person he believes to be the other party to the proposed marriage, that the person is suffering from such disease or he shall give the like information to any parent or guardian of such party.

The Chief Health Officer may also take such further action as he deems necessary in accordance with the provisions of this Act. No medical practitioner may incur any liability for defamation under the *Defamation Act, 1895*, or otherwise, for making any such notification to the Chief Health Officer in good faith and without malice.

Dr. Clarke considers that the same privilege should be extended to communications made in good faith by medical practitioners in other circumstances, with the object of preventing the spread of venereal disease. He instances the case of an individual with syphilitic sores on the hands who is engaged in the handling of food for human consumption.

An Act amending the *Public Health Act, 1903*, was passed in connexion with the outbreak of influenza and special regulations were issued under the amending Act. This matter is dealt with in the report under the heading of "Pneumonic Influenza."

General Sanitation.

It is reported that the sanitary authorities in the city districts and in certain country municipalities have been vigilant and active. Dr. Clarke summarizes the obligations of the local authorities in respect of health administration and points out that those who do not fill these obligations, are inflicting untold injury to public health.

The Chief Inspector reports that the practice of installing septic tanks in country residences is becoming more general. It appears that the approval of the Chief Health Officer is required before septic tanks can be installed. Unfortunately, many people were ignorant of this provision and had constructed imitations, which were little more than covered cess-pits. The work of inspecting houses, especially in connexion with saw-mills, hop and other industries, has led to a considerable improvement. Many of the dwellings at Hastings were found to be in a very unsatisfactory condition, while insanitary dwellings at Southport were also common. The Chief Inspector complains that in some districts the inspectors are unable to devote sufficient time to their health duties. On the whole, however, the work is being well carried out.

Food Inspection.

The Chief Inspector is required to undertake the supervision of the milk supply, the supervision of the preparation and storage of food for sale and the regular inspection of food in auction rooms, etc. During the course of the year 133 samples of foods and drugs were purchased for the purpose of analysis. The general result of the analysis is given in tabular form. In six cases a pending prosecution was relinquished, owing to the fact that the period between the taking of the samples and the hearing of the cases was so long that the defendants were practically prohibited from obtaining check analyses. In one case the milk fats were deficient to an extent of 15% and the vendor was fined half a crown and costs, while in another the deficiency was 21% and the fine amounted to 20s. We have repeatedly called attention to the utter absurdity of endeavouring to regulate the milk supply on satisfactory lines, while only nominal fines are inflicted when deliberate adulteration has been proved.

Infective Diseases.

The following is a short summary of the contents of the chapters dealing with the several notifiable diseases:—

Venereal Diseases.

The returns for the year ended July 30, 1919, are as follows:

	Gonorrhœa.	Syphilis.	Chancroid.
Males	254 ..	36 ..	6
Females	53 ..	17 ..	0
Total.	307 ..	53 ..	6

Dr. Clarke again calls attention to the futility of notification, unless adequate provision for treatment exists. There are ten beds for male patients in the Hobart General Hospital, but none for females. In Launceston no indoor accommodation is provided. The State is obviously not performing its duty to the community. There should be proper indoor and outdoor facilities for treatment in every considerable centre of population. Dr. Clarke states that there is not the slightest doubt that the treatment of these diseases is in the hands of charlatans and unqualified persons. Great vigilance is required to discover these breaches of the law and full penalties should be exacted. It will be noted that the number of infections notified during the year was 77 less than the number notified during the preceding twelve months. No explanation for this falling off is offered.

Diphtheria.

In the year 1918-1919 737 cases of diphtheria were notified. In the previous year there were 759 cases. The number of deaths was 17, which is equivalent to a case mortality of 23%, or a death-rate of 0.83 per 10,000 of population. In the previous year there were 32 deaths, which is equivalent to a case mortality of 42.2%, or a death-rate of 1.61 per 10,000. An epidemic occurred in Deloraine. No one, apparently, was aware of the provisions for checking or preventing infective disease contained in the *Public Health Act*. When the officer of the Department visited the district he found that none of the patients had been isolated and that no other measures had been adopted. Systematic swabbing of the fauces of the school-children revealed the presence of carriers. The isolation of the patients and of the carriers led to the rapid extermination of the infection. There was a similar experience at Penguin.

Enteric Fever.

During the course of the year 144 cases of enteric fever were notified. Seven of these cases were fatal; this corresponds to a case-mortality of nearly 4.9%. In the previous twelve months there were 162 cases and the case-mortality was 11%. In the Scottsdale District there were 14 cases between the end of January and the first week in February. All endeavours to trace a common source of infection failed. Some of the patients lived a considerable distance outside the town and no connecting link between them was discovered. The Department undertook a systematic investigation, with the object of discovering the cause of this and similar outbreaks. In the Ringarooma District an outbreak was traced to a deplorable state of the sanitary arrangements. The latrines were dilapidated, dirty yards were prevalent, stables were ill-kept and other nuisances were detected. The Department appears to be thoroughly awake to its responsibilities. Each outbreak is investigated by an officer of the Department and a large amount of material is submitted to the Government Bacteriologist for the purpose of discovering both infected patients and carriers of bacilli. In every case the water supply is examined and the disposal of excreta, the food supply and the question of flies and dust are taken into account.

Tuberculosis.

The number of civilian patients in the Consumptive Sanatorium at New Town on June 30, 1918, was 23, while 57 were admitted during the twelve months. We have recently dealt in some detail with the annual report of this institution (see *The Medical Journal of Australia*, January 31, page 116). The total number of cases of pulmonary tuberculosis notified during the year was 189, as compared with 199 notified in the year ended June 30, 1918.

Bilharziosis.

Dr. Clarke states that bilharziosis was practically unknown in Tasmania prior to the war. The infection has been introduced by soldiers who have been infected in Egypt. During the course of the year two cases were detected and notified. The military authorities have furnished the Health Department with the names and addresses of infected persons discharged from the forces. This information is of great value to the Department.

Cerebro-Spinal Meningitis.

There were thirteen cases of cerebro-spinal meningitis in the whole State during the year. From the table it would appear that the disease was not epidemic in form, as there were but two cases in Hobart and in all other centres the cases occurred singly. The patients were accommodated in the grounds of the Vaucluse Infectious Diseases Hospital in the south and in the Infectious Block of the Launceston General Hospital in the north.

Scarlet Fever.

Scarlet fever was far less prevalent during the year 1918-1919 than during the two preceding years. Only 32 cases were reported, as compared with 63 and 60. There were four deaths. Eleven of the 32 cases occurred in Launceston.

Influenza and Encephalitis Lethargica.

During the period covered by the report no cases of influenza were reported. One patient suffered from encephalitis lethargica. This patient had had influenza in England four months before admission on May 24, 1919, to the No. 9 Australian General Hospital, Hobart. The diagnosis of encephalitis lethargica was made and as soon as the patient's condition had improved sufficiently he was transferred to the Isolation Hospital.

Toward the end of the year 1918 a conference was summoned at the suggestion of the Federal Government, in Melbourne. The President of the Tasmanian Branch of the British Medical Association and the Secretary of the Department of Public Health joined Dr. Clarke as representatives of Tasmania. The resolutions adopted at this conference were recorded in this journal at the time. As a result of the conference, an Act amending the *Public Health Act, 1903*, was passed, to enable the Department to give effect to Regulation No. 7, which reads as follows:—

7. That this Conference is of opinion that in order to deal with pneumonic influenza, there should be local district isolation and quarantining by each State; that if any State has not sufficient power to effect this, it should obtain such power and that the chief executive officer of the Health Department should keep the Chief Quarantine Officer of the State concerned advised of the progress of the epidemic and of the action taken.

In order to give full effect to the amended legislation, regulations were drawn up clothing the Chief Health Officer with the necessary authority to carry out all reasonable measures aiming at the control of the infection. The military authorities placed Claremont Camp at the disposal of the Department. The Carr Villa Isolation Hospital at Launceston was enlarged to accommodate 50 patients and the municipalities throughout the State were urged to make provision for the institutional treatment of patients. Inoculation depots were established, where free inoculation with Federal vaccine was offered to the general public. Inhalatoria were established, but were not largely used. A large supply of masks was offered for sale. In the last place, four medical practitioners were engaged from other States to lend their assistance in the event of an outbreak.

A Medical Advisory Committee, consisting of Drs. Giblin, Lines, Moore, Sprott and L. G. Thompson, with Mr. E. J. Tudor as Secretary, was appointed to assist the Chief Health Officer. Dr. Clarke states that these gentlemen gave their services unsparingly and that he desires to place on record his deep appreciation of their services.

A few soldiers broke bounds in February, 1919, during a period of detention at the Federal Quarantine Station at Barnes Bay. Stringent measures were immediately adopted to prevent a repetition and, at the same time, to anticipate the introduction of the disease by these soldiers. The special restrictions were removed early in March. Dr. Clarke, in his capacity as Chief Quarantine Officer, gives a short

account of the measures adopted in Quarantine in connexion with influenza.

Infantile Mortality.

Reference is made to the work accomplished by the Child Welfare Nurses and by the Child Welfare Association. This matter had our attention in the issue of January 10, 1920, page 34. Dr. Clarke refers to the need for further activity. The infantile mortality rate for the State was 60.8 per 1,000 births. Of the 321 deaths of infants under one year of age, 143 took place in the two principal cities.

Bacteriological Report.

The Government Bacteriologist, Mr. H. G. Beardmore, gives a general account of the work undertaken in his small and highly inconvenient laboratory. He refers to the fact that his equipment does not include an electric centrifuge, an automatic shaker or a sterilizing oven. We would congratulate Mr. Beardmore on having accomplished such excellent work in a highly disadvantageous environment. The Government should lose no time in erecting a suitable modern laboratory and in securing the services of a competent assistant.

Midwives.

The number of names on the Midwives' Register on June 30, 1919, was 659. During the course of the year 260 new certificates were granted. As a result of the amendment of the law referred to above, a number of charges of malpractice and of negligence were dealt with. In some instances a warning was issued, while in others the midwife was temporarily suspended from practice. No names were removed from the Register.

The amended regulations necessitated a revision of the course of training. The systematic lectures now include the following subjects: (i.) midwifery, including elementary anatomy and physiology of the generative organs; (ii.) care and feeding of infants; (iii.) invalid cookery, and (iv.) general nursing.

The report further contains a paragraph on rat extermination and various appendices containing statistical information.

THE SPREAD OF INFLUENZA.

According to the Bulletins of the Quarantine Service published during the month of January, influenza appears to be epidemic in many parts of the world. It is reported that in Japan, from October 1, 1919, to January 23, 1920, there were 720,000 cases and 20,000 deaths. In England and Wales during the fortnight ended December 6, 1919, 1,175 cases were notified. During the month of September there were 2,204 cases recorded in Denmark, in Sweden there were 62 cases and one death during the first week in December and in Switzerland there were 142 cases during the last week in November. It is reported that there were 120 cases between November 11 and November 20, 1919, in Algeria. The disease appears to be prevalent in India and China. In Calcutta there were 101 deaths during the first week of November. The epidemic has apparently died down in South Africa. Since December 31, 1919, influenza has been no longer notifiable. There were 124 cases and 40 deaths during the fortnight ended December 27, 1919. On the other hand, in New Zealand there appears to be an increase. During the week ended December 22, 1919, 282 cases were recorded. In the following fortnight 187 cases occurred and during the following three weeks 763 cases were recorded. Thus in six weeks 1,232 cases occurred. The majority of these cases were of a mild nature.

In Australia very little influenza was present during the months of November and December. The last death from this disease in Victoria up to December 5, 1919, occurred in the week ended October 3. There were two deaths in New South Wales during the first week of November, but none since; the last death in Western Australia occurred during the same week and the last death in Queensland occurred in the week ended October 17. In South Australia there were one or two deaths each week since the end of October. No report appears to have been received from Tasmania since the week ended November 21, 1919, when there were ten deaths.

hospitals.

THE MELBOURNE HOSPITAL.

The annual report of the Committee of Management of the Melbourne Hospital for the year ended June 30, 1919, together with the statistical returns and other data, were made available in book form in the month of October. The Chairman of the Committee relates that considerable anxiety was felt during the financial year in regard to the finances of the institution. The expenditure on maintenance and administration exceeded the income by about £4,300. The Government grant amounted to £17,500, while an additional sum of £783 was collected from the municipalities. The charitable public contributed £11,891, while interest on investments and bequests yielded £3,573; the patients' contributions amounted to £10,258. The total ordinary income aggregated £48,190. The maintenance account shows an increase of £4,324 over that of the preceding year. The greater part of this sum is accounted for by the increases of salaries and wages. Provisions cost only £800 more in the year under review than in the year ended June 30, 1918. The cost of maintenance amounts to £7 9s. 6½d. per patient or 7s. 4½d. per patient per day.

During the course of the year 6,654 patients were admitted into the wards. There were 366 patients on July 1, 1918. There died within the year 997 patients, while 5,666 patients were discharged. The mortality rate is given at 14.2%. According to the Registrar-General's formula, the rate was 14.9%. This figure is arrived at by adding the number of persons admitted to the number of those discharged and dead, dividing the resultant by two and using the figure obtained as the divisor and the number of deaths multiplied by 100 as the dividend.

A large amount of activity is displayed in the Out-patient Department. The total number of out-patients dealt with during the year was 16,043, while the number of attendances amounted to 164,460.

During the influenza epidemic four wards containing 100 beds were placed at the disposal of the Department of Public Health, pending the establishment of emergency hospitals. The total number of patients treated in the wards for influenza, including the members of the medical, nursing and other staffs, was 737. Of these, 134 died. Special reference is made to the death of Dr. Elizabeth M. Sweet, Acting Medical Clinical Assistant, from influenza.

During the course of the year six members of the honorary medical staff were re-elected to positions they had held for five years, in accordance with the provisions of the by-laws. Dr. W. G. D. Upjohn, formerly Resident Medical Officer and Surgical Clinical Assistant, was appointed surgeon to outpatients in the place of Mr. B. Kilvington, while Mr. B. Kilvington was appointed full surgeon to in-patients, filling the vacancy created by the resignation of Mr. F. D. Bird.

Several members of the honorary medical and surgical staff returned from active service and again took up their positions in the hospital. The Committee expresses its grateful thanks to the practitioners who had held the acting positions, while the permanent medical officers were on active service. At the end of the year there were still 16 acting medical officers occupying positions. It is noted that Dr. M. D. Silberberg, who was granted leave of absence in 1916 on his enlistment for service abroad, had not sufficiently recovered from his ill-health to resume his hospital duties during the period covered by the report. The Committee noted with gratification that he was making good progress toward recovery.

In the Medical Superintendent's report it was noted that difficulty had been experienced in obtaining a sufficient number of resident medical officers. The services of five senior students were utilized in November and December, 1918. The Committee determined to create four additional positions in the resident staff and to reserve these positions for practitioners who had returned from active service abroad.

Reference is also made to the arrangements for the post-graduate class for returned medical men and others. This course was held in August, 1919.

A number of statistical tables, occupying 22 pages, are appended to the report. Following these tables are 55 pages containing the names of contributors, life governors, etc. The information contained in the statistical tables is of small value in comparison with the space occupied. The hospital records must contain a great fund of useful information, much of which remains buried. We recognize that the incorporation of some of this information in the annual publication would entail additional labour on the part of the Registrars. On the other hand, the additional work would carry with it an enhanced value to the report. It seems hardly worth while to set out the number of times staphylococci were found in blood cultures or the number of autogenous vaccines that were prepared. Again, the return of operations without reference to the conditions for which these operations were performed, can scarcely serve a useful purpose. The nosological return occupies eleven pages, the diseases are arranged according to a modification of the Bertillon classification and the information included is limited to the number of male and female patients who were discharged and the number of those who died in connexion with each pathological process. In some instances, no doubt, these statistics are of value in indicating approximately the case mortality. In the greater number of cases, however, no deductions can be drawn, partly because the total number of cases is too small and partly because no information is available concerning the previous history of the patients and the stage of the disease at the time of admission.

On previous occasions we have called attention to the manner in which the records of the members of the medical staff are set forth. The report is addressed to the public and particularly to the subscribers to the Hospital. The details concerning the medical staff savour of advertisement.

Obituary.

CHARLES LOUIS TAYLOR.

The last mail from England brought the sad news of the death on December 21, 1919, of Charles Louis Taylor, until 1917 Assistant Editor of the *British Medical Journal*. To the majority of the readers of the *Journal* he was an anonymous, witty, skilled, powerful writer, an expert journalist, a keen defender of the dignity and prestige of the medical profession. His articles were readily recognized, even by those who scarcely noticed his name on the title page of each volume. There was something characteristic of the man in every sentence; a power behind the words that attracted attention and that fascinated the reader.

Charles Louis Taylor worked for over thirty years for the benefit of a profession which he had adopted without actually entering. He studied medicine at University College, London, from 1873 to 1877. His literary attainments and his love of historical and linguistic research revealed themselves at an early age. He completed his curriculum, held a position as House Surgeon to Mr. Berkeley Hill and undertook many other medical duties, but he did not take a medical degree. For six years he lent his aid to Sir Morell Mackenzie in the preparation of the second volume of a large text-book on the diseases of the nose and throat and to other medical authors. During this time he established for himself a reputation as a skilled biographer. His entrance into the field of journalism commenced in 1886, when he joined the staff of the *British Medical Journal*. On the death of Mr. Ernest Hart, Dr. Dawson Williams was appointed Editor and Charles Louis Taylor became Assistant Editor, a position that he held until his retirement in 1917. It is impossible to describe adequately the manner in which he carried out his responsible duties. Save to those who knew him intimately and who sought his aid and criticism in his sanctum, he remained a hidden figure in the background, shouldering large responsibilities, giving of his best to the Association and the medical profession; yet working almost unnoticed day after day, and year after year. His inexhaustible store of good nature and of quiet wit, his charm of manner and quaint personality, his sound judgement and critical sense, his generous large-mindedness were

known to but a few. To his friends he has few equals and no superiors. Many members of the medical profession have stood and stand under a heavy load of debt to him for having fought their battles with ready weapons, for having given them kindly guidance and for having fired them with enthusiasm to emulate his example. The record of his life's work appears in the *British Medical Journal* of January 3, 1920. We are constrained to speak a word about the man whose worth was not fully appreciated by the majority, because of his innate reticence and modesty. The medical profession throughout the Empire has lost one of its best friends. May he rest in peace!

Correspondence.

RHEUMATISM AND SEPSIS.

Sir.—In answer to Dr. Kent Hughes's letter in your issue of February 21, all I have to say is that my paper really dealt with heart disease and only with rheumatism as a cause of heart disease. Other forms of rheumatism, as fibrosis, muscular rheumatism, etc., in which the heart is seldom affected, I did not mean to refer to. There can be no two opinions as to the advantage of removing septic foci, as diseased tonsils, in cases of chronic rheumatism, or in any other condition where it is practicable.

Yours, etc.,

J. M. GILL.

February 24, 1920.

Books Received.

OTO-RHINO-LARYNGOLOGY FOR THE STUDENT AND PRACTITIONER, by Georges Laurens, authorized English translation of the second revised French edition by H. Clayton Fox, F.R.C.S., with a foreword contributed by J. Dundas Grant, M.D., F.R.C.S.; 1919. Bristol. John Wright & Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.; Toronto: The Macmillan Co. of Canada, Ltd.; Demy 8vo., pp. 339, with 592 illustrations. Price, 17s. 6d. net.
LETTERS OF AN AUSTRALIAN ARMY SISTER, by Anne Donnell, of the Third Australian General Hospital; 1920. Sydney: Angus & Robertson, Ltd.; Crown 8vo., pp. 291. Price, 6s.
THE LETTERS OF A WIDOWED PHYSICIAN TO HIS DAUGHTER AT PUBERTY, AT MATURITY, AT MARRIAGE, AT MOTHERHOOD; 1920. London: Baillière, Tindall & Cox; Pocket size, pp. 64. Price, 2s. 6d. net.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges (other than the Grand United Order of Oddfellows and the Melbourne Tramways Mutual Benefit Society), Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital.

Branch.	APPOINTMENTS.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. Newcastle Collieries—Killingworth, Seasham Nos. 1 and 2, West Wallsend. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

- Mar. 2.—N.S.W. Branch, B.M.A., Ethics Committee.
- Mar. 3.—Vic. Branch, B.M.A..
- Mar. 5.—Q. Branch, B.M.A.
- Mar. 9.—Tas. Branch, B.M.A..
- Mar. 9.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
- Mar. 11.—Vic. Branch, B.M.A., Council.
- Mar. 11.—N.S.W. Branch, B.M.A., last day for nomination of candidates for election to the Council.
- Mar. 11.—Q. Branch, B.M.A., Council.
- Mar. 12.—S. Aust. Branch, B.M.A., Council.
- Mar. 16.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
- Mar. 17.—W. Aust. Branch, B.M.A..
- Mar. 23.—N.S.W. Branch, B.M.A., Council.
- Mar. 25.—Q. Branch, B.M.A., Council.
- Mar. 25.—S. Aust. Branch, B.M.A., Branch.
- Mar. 25.—N.S.W. Branch, B.M.A., return of ballot papers for election of members of the Council.
- Mar. 26.—N.S.W. Branch, B.M.A., Annual Meeting.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.
Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.
All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: City 2845.)